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Devoted to the Art of Instruction,

WILLIAM A. MOWRY,
EDITOR.

VOLUME III.
1889.

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Prospectus for 1890.

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NOW FOR 1890.

It is the intention of the editor and the publishers to take a grand step forward at the beginning of the new year with Volume IV.

Besides the several series of articles on methods, each number will contain at least one article on some general topic; editorial notes of a practical nature, written by a teacher, who will draw from his own daily experience; choice selections for readings and declamations on "Friday Afternoons," "Chats with Teachers," a "Basket of Chips," and "Questions for Examinations," a feature which from careful selection and proper adaptation, has been commended heartily by hundreds of teachers who have come to rely upon them from month to month.

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OUR AIM.

COMMON SCHOOL EDUCATION is not a newspaper. It does not attempt to give educational news. It is — in our judgment — of no special interest to the teachers of this country, whether Josie Hall of Factory Village has been transferred to District No. Four, or whether Minnie Alice Newcomb is engaged to teach the district school in Oakdale. In a local newspaper such notes may be of some interest, but COMMON SCHOOL EDUCATION is taken by subscribers in every state and territory and in foreign lands. Its design and its mission, if it has one, is to bring to the attention of teachers in the common schools the best methods of imparting instruction in the several branches of elementary learning.

Moreover, it aims at higher purposes than to criticise the work of brother editors, and hence the time cannot be afforded or the space taken for throwing mud at other workers.

Three years ago the editor undertook to establish an educational magazine of a high character. He was told that his aim was too high, that teachers wanted principally hints and devices and helps, for exhibition occasions. It was believed, however, that there is a growing number of teachers in this country who will be satisfied with nothing but the best, and COMMON SCHOOL EDUCATION was started with the desire and design of supplying to thoughtful teachers, the very best aids to more intelligent teaching. In this we have not been disappointed.

The subscription list has had a steady and uniform growth until now, few, if any, educational journals can show a larger list. We have bought no subscription lists, but have added new names by the single one, by fives and tens, twenties and forties, and even seventy-five from one school, until we now send out to New England some thousands, to New York state about an equal number, and a very large number to the Keystone state, hundreds if not thousands to the several states of the Ohio Valley and the great north, the south and the Pacific coast.

We did contemplate making the price $1.50 a year, but have adhered to our purpose to keep it at the small sum of one dollar, with the hope of making up in numbers what we should thereby lose in price.

On another page will be found our list of publications.

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DEVOTED TO THE ART OF INSTRUCTION.

VOL. III. JANUARY, 1889. No. 1.

A SCHOOL RECORD FROM DIFFERENT POINTS OF VIEW.

BY MISS MARY A. RIPLEY, WARSAW, N. Y.

WHAT GEORGE SAID.

YES, I 'm in. Conditioned in two out of four; but never mind. My luck does n't fail me; in the old school I always skimmed through, somehow; never was caught but once; made fair promises, and skipped up. Did I keep my promises? O Tom, do n't ask; you are a boy yourself; you never do such things, of course; but you 've seen how other fellows do. Did I get my unconditioned two, squarely? There you are again, with your queries and investigations. You did not help me out, that's certain; and I'd be pretty mean to tell who did. I will not betray my friends. You do not call it friendship? Why, I'd never got above Grade 5, if I had n't been helped. What little I know will not stay by me in examination, and what I do n't know I have to get from some one who does.

In the High School! Half in would be nearer the truth. I must hurry up my conditions, and try to make a decent standing. Wish I could do something this time. I do n't care so much for myself, but 't would please mother. Papa does n't seem to care so much — too busy. Wish I did n't know so many girls — they take a fellow's time. Algebra with its x's and y's is n't nearly so pleasing as Nellie and Bessie. I do like society. And then my music — that takes my time awfully. Why, Tom, I play the piano, and banjo, and fiddle, and three or four other things; that takes the girls — and, really, that 's my sphere. I never could see the good of all these hard books, that you bright scholars dig at, while my kind runs all about having fun. But I 'm going to brace up, Tom, and surprise you all. You 'll see how sweet I 'll be with the teachers; that 's one way to help your standing. Yes, I 'll make everybody fond of me, or die in the attempt. I 'll burn my ships behind me — that is, I 'll cut the fellows who have helped me heretofore, and help myself.

WHAT THE TEACHER SAID.

So George has two conditions. I watched that boy closely during examination, because I saw he was trying to cheat. I was sure I had caught him, once; but he looked out of those bland blue eyes so mildly, and explained the apparent trick so innocently, that I was obliged to take his word. I never like to seem to doubt a boy's word, unless I know he is playing false. If he is a liar, he will betray himself in due time. His old teacher told me he was a tricky fellow; fairly caught him once; had a mind, as he had the right, to throw him back a year; but his mother, who is wonderfully sweet and pretty, pleaded so tenderly, and the boy promised so strongly, that he was allowed to go on. Go on! a merely nominal promotion, as there was no adequate preparation. And the boy managed to pass from class to class, just as he has contrived to get from the lower school into the High School. At every examination he was suspected, but not definitely detected; so he slipped on. But he comes in under a shadow; and I 'll warn every teacher of his character; and, amongst us, if we cannot make true observations and statements enough to check that young man's career, we ought to retire. He is altogether too old for his years in some ways; always has two or three girls with him; if he had more brains, he would n't relish just the kind I see him with; wev'e had them here, silly things that never learned a lesson thoroughly in their lives. Probably he will try to work the same racket here; his idle, cheating habit must be pretty well fixed. He thinks too, that he 's a beauty — has no ambition to be a man; a sort of Miss Nancy, who stands before a glass admiring his own perfection. I know a good deal about that youth; Not as much as I wish I did, for I 'd like to know just who *boosted* him into this school.

WHAT MAMMA SAID.

I 'm so glad George passed his examinations! Two conditions, to be sure: but he is always so nervous in recitation, he says he always loses his wits. I used to be just so; he 's my boy, entirely; never could tell what I knew. And I 'm sure his ambition will rouse him now to greater effort than he has yet made. And those boys who follow him up so and are forever getting him into trouble — dear me! I am wicked enough to hope that they will not enter just now. If George could only be kept from them a few months; make other friends and get interested in his studies and teachers, he 'd go right along. I mean to put my foot down and positively refuse to let him go out evenings. He will not keep up with his class, unless he gives up everything else. He shall give up his music and dancing — unless he might have his fun Friday and Saturday evenings. His father is glad, too; I can see that, though he says nothing. George has given us more trouble than all the other children. But he has such coaxing ways, and when I 'm scolding him, or crying over him, or both together, he promises anything I ask. But he 's weak, and before a month passes, all is forgotten. But now he 's in the High School, he 'll have more pride about failure, and he shall give up those little mischiefs that are so disturbing to school order. He 's wonderfully cute, though, and all the boys like to see his performances; good as a circus, they say. But school is n't the place for them; I 've talked enough to fill a book, but he knew all the time that I was full of laugh over his stories. Not exactly the way to straighten him up. But no more of that. Hard work, now, my boy! And 't will be as hard work for me as for him. I can't say no to that fellow. Wish his father would take him in hand, but I' ve always had to deal with the children. He says that he can't earn bread and butter, and tend the nursery in addition. But I feel, many times, that a word from him would be better than all my preaching. I 'll go down soon and see his teacher; I 've noticed that he seemed to get on faster when I let the teacher into some of his peculiarities. He is n't a bad boy, but he hates study, as a certain respected individual is said to hate holy water.

GEORGE ONCE MORE.

Had lots of fun, to-day, mamma. Bought a squawker yesterday; been so good I thought I must have a little fun. No, I did n't carry it to school, I carried it to Charley, handed it to him half a mile this side of the schoolhouse; gave him our list, arranged in alphabetical order, with reference to every letter, as Professor says. Just after classes were called, and when the room was perfectly quiet, I heard the thing go. Teacher looked nervous, but said nothing. In five minutes Charlie tip-toed to the desk and asked to leave the room. By the time he was in the basement, the squawker went off again, in another row of desks; Charlie went down that aisle when he left. Teacher turned red this time, but could n't for his life have located it, and an honorable boy will not betray a fellow. And the thing has been passed on all day; first-rate time when classes change — then we get two or three squawks.

To-morrow we 'll sound it in the halls; by that time somebody will blunder and we 'll call a halt. O mamma, you do n't think it 's very bad or you would n't laugh so over it. You used to cut up in school, I guess; teachers are fair game. Here comes papa. Hush; do n't say anything.

TEACHER ONCE MORE.

George is doing nothing to speak of, in his studies, and a great deal to speak of, in his vicious conduct. More harmful it is, because he is a boy with a certain polish and a certain social standing — these things always tell. I feel morally sure, although I do not absolutely know it, that he is connected with most of the disorder in the room. His influence is always on the side of evil.

Last evening I called on his mother. The boy is quite charming in his own family; made himself very agreeable while he was there; but had an engagement which would keep him out till eleven. He ought to have been at his books. His mother knows it as well as any one. She is weakness itself in her management, or mismanagement of this boy. She had the poor taste, after rehearsing George's stories of school tricks, to say, "I could n't help laughing, but was sorry for you all the same." I felt humiliated, but said nothing in reply. Why can she not see that her boy is on the wrong road, and that she is encouraging him therein? I ask no mercy; but for his sake, she should make him see that his "fun" is wholly unseasonable in school. Teachers are to teach, not to follow up tricks of brainless boys. But his examinations will soon tell her a tale which will turn her laughing into something more serious. I cannot avoid the conclusion that the boy's failure is needless. More firmness, more common sense, would have saved him from such inefficiency, would have made him more of a man. His mother talks sometimes as if she thought his nonsense was veritable virtue, as if the very qualities that insure defeat ought to give the opposite result.

GEORGE AGAIN.

Been in High School six months. Semi-annuals blooming now. Made up my conditions? One of 'em. Ready for next week? Yes; teacher let me into examinations, and I 've arranged a system which ought to be some help. I 've organized victory, as the old Professor says, and if victory do n't disappoint me, I 'll be all right. I do n't get ready for these occasions you way. I mean to put myself into the hands of my friends, as the politicians say.

Well, Latin is over. Guess I 've answered one in ten — that would be ten per cent. Tried hard to slip a question over to Tom, but he was busy, and I noticed one of the teachers was busy too, looking straight at me. Do n't think the paper was quite fair; but that 's what they all are. Never mind; better luck next time.

Algebra to-day. Blue as smoke. Not a ghost of a chance. What will mother say? I will say nothing to her for a day or two. Break the news gently. History to-morrow. I 'll read up this evening. No, come to think I 've got to go to rehearsal for those private theatricals.

I do n't believe I 'll ever do anything in school, anyhow. Wish I could get a place. I like work, and I do n't like study. Smashed all to pieces in history. All three subjects to review and one condition to remove. Hand me my hat, Tom, please. Thank you. Have cigarette? No, you do n't smoke; wish I did n't, but I need some comfort.

Mother looked awful sorry when I came home this afternoon, and exclaimed in an excited tone, "Failed in my Latin — don't pity me, nor scold me, nor tell father." Then I ran to my room, as if I was so sad and mortified, and I managed so that she should ask me no questions. I would rather die than to tell her everything. Wonder if she 'll ever find out that I 've dead broke. Harry Cuthbert said they wanted a "trotter" at his father's bank. I 'll see if they 'll let me try it. Then I 'll tell mother and persuade her to make father let me leave school.

WHAT PRESIDENT CUTHBERT SAID.

So George wants that place, does he? I 've noticed that youth in the street, and in many other places. He makes himself too conspicuous. A lad does n't look well with a cigarette in his mouth — he always has one in the street. I 've seen him linger just outside the church door to get two or three last whiffs. I always feel like saying, "What a fool you are! And pity 't is you do n't know it." I have not the slightest idea that I could stand him about me. And then his manner is intensely disagreeable. He is so conscious of himself — never forgets George's pretty face and white teeth. To me, he looks supremely silly. He is the boy — is n't he? — who is always cutting up in school. Boys do not realize how many times their school record helps or hinders them. You tell George, that if he will bring me an A No. 1 recommendation from his teachers, I will consider his application.

"For he who always does his best,
His best will better grow;
But he who shirks or slights his task,
He lets the better go."

PRACTICAL BOTANY.[1]

BY PROF. W. WHITMAN BAILEY, A. M., BROWN UNIVERSITY.

I.

NO study is better adapted than Botany for training the observing faculties. Perhaps no study is oftener mistaught. Pupils often retain a profound disgust for it. When, in our experience, such cases occur, we generally conclude that the teacher was in fault. Nature is too beautiful, too considerate, her facts too interesting, for one properly taught to derive anything but pleasure from her contemplation. But it must be borne in mind that Botany is a study of living objects; to know them, we *must* see the things themselves. Books, however faithfully conned, will not suffice. They must be subordinated to the practical examination of the actual objects.

Believing this to be true, it is always our desire to engage at first the pupil's attention by demanding a careful description of some portion of a plant. We naturally begin with a seed. because upon its structure depends so much of the after life of the plant. Taking a common bean-pod, for example, here are some of the questions we are in the habit of asking concerning it. With the questions are, from time to time, interjected directions for the laboratory work.

SCHEDULE I.

1. Describe the object as it lies before you, as to size, form, color, and all peculiarities. Let no point escape you.
2. Make a careful drawing of the object.
3. Open the pod, note *how* it opens, and into how many parts, or "valves."
4. Describe one of these valves.
5. What do you find within the pod?
6. How are these contained objects arranged?
7. Why, perhaps, are they colored as they are?
8. Take one seed, and peel off the covering. Note whether this covering is single or double.
9. Describe the contained body, the "Embryo" —
    a. unopened.
    b. displayed.

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[1] Copyright, 1888, by Eastern Educational Bureau.

10. Into how many parts or divisions is it to be separated, and are any of these alike?

11. Make a careful drawing of the "Embryo" and apply names to the parts. (The names can now be given by the teacher.)

12. Examine the "plumule" under a lens and observe its netted veins.

13. Why should the seed, leaves or "cotyledons" be thickened or gorged with starchy matter?

Here it is our habit to show each individual in turn, if the class is not too large, the starch itself under a compound microscope, speaking of starch in general, its shape, markings, and action with polarized light. If the bean has been boiled, too, it is a good plan to show how the starch will strike a purple color with Iodine solution. We find all pupils interested in this pretty test. Then, we proceed with another question, suggested by what we have found, asking the class to take time for thought before answering.

14. What is the purpose of the starch in the cotyledons?

Of course any book will afford the answer to this query, but at this point of work books are tabooed.

The next time the class meets we can take some one paper at random, and read up what has been observed. Then ask if any one can add to the description, or can find any fault with it. This invites criticism and excites emulation. One should learn to bear the first with patience, and, on the other hand, receive praise with modesty. The lesson of self-restraint can well be enforced right here. Well bestowed praise is useful. Most persons like this stimulus, and we must personally confess that we prefer it to blame. The judgment should, however, be impartial, careful, and founded on observations of our own. It is better to set things right at the beginning, than to have them rise as awkward points needing explanations, reviews, and re-adjustment afterwards.

It must be borne in mind, too, that different persons, in very various degrees, possess the faculty of observation. We must not expect trained observers here. Our object is to incite to observation. One scholar will see much more than another, but not necessarily better. Again, one may have superior powers of description, embodying in terse language the results of his study. Another will be diffuse and wandering. We must, as careful teachers, have our eyes on these essential differences. Help one, praise another, sit down and talk with a third; reconstruct sentences, correct spelling; be at all times everywhere. Upon this ubiquity success depends.

Old Chapman, in a drawing book which many will remember, used to say "Any one who can learn to write, can learn to draw." We believe that he was in large measure correct. Obdurate cases will certainly improve, but there is no denying that to some the power is naturally given, while to others, even years of practice afford little encouragement. But let no one give it up for that. Drawing, even though the work be indifferent, is so valuable an acquisition that the teacher should never grow weary of stimulating his classes to try. It is amazing what progress is often made.

So, during the early part of a course, we pass on from one object to another, each day's work being made to connect with that of the preceding. In future papers, we shall hope to show how these different lessons are made to record a continual and positive advance.

LANGUAGE LESSONS AND EXERCISES.[1]

(*Second Series.*)

BY L. W. RUSSELL, A. M.

I.

ABBREVIATIONS.

IT is not enough to know that certain words may be abbreviated by certain letters or other symbols. The recitation of columns of "abbreviations" by pupils is but a small part of the work which should be done with them. To discriminate when to abbreviate words and when it would be improper to do so is a matter requiring special observation and study and much practice. The tendency with pupils who have learned the lists of abbreviations in our textbooks, is to use them in every possible position, frequently where their employment would be highly inelegant. When exercises upon them are assigned for the pupils to write, ludicrous mistakes often occur. Teachers have only to assign a few common abbreviations to be illustrated in sentences to be convinced of the great need of careful instruction and extended practice in this matter. Take, for instance, the following: *ult.*, *inst.*, and *prox.;* the abbreviations for the months of the year, the days of the week; for countries, states, cities, and other geographical names; and, especially, for commercial terms and articles. A few trials with the pupils will usually show a great lack of discrimination as to the proper connections in which to use such abbreviations. The quotations below show a few of the inaccuracies in the use of abbreviations in a recent class exercise: — "She went home *ult.*" "My sister is

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going away *prox.*" "I shall visit my sister the *ult.* of this *inst.*" — "The D. C. is the capital of U. S." "The Prest. of U. S. is to be elected *prox.*" "Daniel Webster was elected M. C. and was a great Am. statesman." "The Pres. has appointed Thurs. Nov. 29 as Thanks. day."

An examination of the papers written for the use of the abbreviations of terms properly used in bill making, account books, arithmetical tables, etc., showed still greater errors in application.

It is difficult to formulate directions to determine the proper places in which to use the abbreviations or the full words. For well-trained minds, some general principles may be laid down; but beginners must "learn to *do* by *doing*," gradually working up to the exercise of correct judgment and good taste.

Teachers should endeavor to lead the pupils to use the abbreviation only when the frequent recurrence of the word, in a particular connection or style of composition, makes it desirable or necessary to economize time and space by so doing. In the case of using abbreviations for honorary and professional titles, even, there are many instances where the dignity of the circumstances require the full word or phrase.

In selecting abbreviations for illustrative work, take those which are in most general use; and, of such, select those most liable to erroneous use. Two or three will give ample work for a lesson, both for pupils and teacher.

EXERCISE.

Ult. — *ultimo;* the last month. *Inst.* — *instant;* the present month. *Prox.* — *proximo;* next month.

Use *ult.* 1. as an abbreviation; 2. the phrase, "the last month," in full; as, The vessel arrived on the 27th *ult.* My record for *the last month* was "good."

Use *inst.* as above.

The meeting is appointed for the 15th *inst.* He will return before the close of the present month.

Use *prox.* and the phrase "next month." He expects to arrive on the 3d *prox.* Should the next month be as stormy as the last, the work will not be finished.

a. m. — *ante-meridian:* Before noon.

p. m. — *past-meridian:* Afternoon.

Abbreviation: — The train will arrive at 9:30 a. m. The barometer reached the lowest point at 3:15 p. m.

Full words: — I hope you will reach home *before noon.* We have some time for recreation in the *afternoon.*

Note. When it is desirable to make the abbreviations "a. m." and "p. m." prominent to the eye, they should be written in capitals; as "*Office hours from 10 A. M. to 4 P. M.*"

Abbreviations of states and cities are frequently misused. Practice upon a few will serve to show their correct use. Numerous examples of the appropriate use of the whole name should be given.

Mass. D. C. U. S.

Abbreviations: —The letter was dated at Quincy, Mass.

My Uncle William resides at Washington, D. C.

The thief was caught robbing the U. S. mail.

Full words: — "God save the Commonwealth of *Massachusetts!*"

The *District of Columbia* is the seat of the *United States* government.

"On the 14th day of June, 1776, it was resolved by Congress, 'That the flag of the thirteen *United States* be thirteen stripes,'" etc.

Notes. —Many references to the geographical and historical paragraphs should be made with the pupils, to show them the connections in which it would be in good taste to use or not to use, as the case may require, the abbreviation.

A very improper use of the abbreviations of certain proper names is sometimes seen, as in a review in history by a grammar school class: — "King *Geo.* III sent troops to Boston," etc. "The character of *Chas.* II" etc.

The abbreviation of names of persons, as above, is rarely, if ever, in good taste; but think of directing a letter, — "Geo." Bancroft!

The abbreviation of civic, military, ecclesiastic, and other titles is usually allowable; but there are instances where it would be highly inappropriate to abbreviate them. This point may be more fully treated in a future number.

As an instructive exercise, direct the pupils to find in different books — ordinary textbooks are good for the purpose — words abbreviated in one instance and written in full in another; contrast the conditions and find from them, as far as possible, the guiding principle.

EXERCISES IN PRONUNCIATION.

Presumption.
Pretence.
Preterite.
Pretor.
Pretty.
Prima donna.
Prima facie.
Primeval.
Princess.
Pristine.
Probatory.
Procedure.
Process.
Produce.
Profile (2).
Profuse.
Progeny.
Program.
Progress.
Project.
Prolocutor (2).
Prologue (2).
Promenade (2).
Promissory.

METHODS IN GEOGRAPHY.[1]

(*Second Series.*)

BY LARKIN DUNTON, LL. D., AND MISS L. T. MOSES.

I.

NATURE LESSONS — SECOND YEAR.

THE STARS.

THE children had been watching Venus for several weeks, and had found that every night at six o'clock she was higher above the horizon, till now she was nearly half way up to the zenith. The teacher had told her pupils they would have to watch most carefully for the next few weeks, or they would miss seeing something interesting in regard to the movements of Venus. The children had watched Mars and Jupiter through the early weeks of autumn, till now they could see them no longer.

"So you all tried to find the Great Bear last night?" said their teacher one bright winter morning. "All who think that they found it may raise their hands."

The children's hands fairly flew up, so eagerly had they looked, and so sure did they feel of their success.

It was not wonderful that they had succeeded; for they had been looking to find star figures for several evenings. They had found triangles and squares, oblongs and rhombs, curves and strange figures like sickles. Besides this they had found the north and east, had pointed a little way north of east, and had found the place about a quarter of the way up to the zenith from this point north of east. Then, too, their teacher had drawn on the board a figure looking like a dipper with a long handle. There were seven stars in the figure, and they were all rather bright, the teacher had said. There were four stars in the bowl of the dipper and three in the handle, and the children had pointed where they were to find the end of the handle, and just where they were to find the other stars. Besides all this, when the children were dismissed the teacher had gone out with them, and they had all pointed to the heavens where they were to find the stars a few hours later.

"I am going to let you make me very sure you saw the Great Bear last night, children," said the teacher. "How many of you can tell

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[1] Copyright, 1887, by Larkin Dunton, and Miss L. T. Moses.

me about the brightness of the stars? Think of the bright stars in that part of the heavens."

The children think these stars were very bright. Many of them think six were very bright, and one not so bright as the others. They shut their eyes and see the brightness of the stars, and see which one is less bright than the others. All think the fainter one is in the bowl of the dipper, on the side next the handle; but some think it is the star in the top of the bowl, while others think it is the bottom one. They all resolve to see it just as it is to-night.

"Now shut your eyes and see the distance apart of the stars; see the two nearest together, and the two farthest apart," directed the teacher.

The children differed much in regard to the two stars that were nearest together, though several were right in the matter. They said they would look so well at night that they would be very sure in the matter the next day.

"You will need to look well to-night; for to-morrow I shall want you to draw the seven stars for me," said the teacher. "I am going to tell you something that will help you to see better. There are three stars that are on a straight line, and if you get that line it will help you draw all the stars better.

"There is a story about the Great Bear, and you have done so well in finding the seven stars that make the—what part of the bear do you think the handle of the dipper is? Yes, it is the tail, and the other four are in his haunches. You have done so well that you shall hear the story.

"You must know, children, that many years ago, hundreds and thousands of years it was, men watched the stars and put the things they thought about them into stories. Among those stories is this one of the Great Bear.

"Long ago there lived in a most lovely country a woman who was so beautiful that every one admired her. She had a dear little baby boy named Arcas. Juno, one of the goddesses, did not like Callisto; in fact she was jealous of her beauty. I forgot to tell you that Callisto was the name of Arcas' mother. People in those days thought that a goddess could do anything. I fancy that the goddesses were very much like the fairy godmothers, only more powerful.

"At any rate Juno did great harm to Callisto. This was how it happened.

"One morning when Callisto got up, she found her hands looked dark and had brown hairs all over them. She washed them and rubbed them; but they would not come white and smooth. They had been very beautiful hands before.

"Pretty soon Callisto saw that the shape of her hands was changing.

They began to look like paws. She was much frightened and started to go to tell people and get help; but she found she could only walk on her feet and hands, too, like an animal. How do you suppose Callisto felt when she knew this?

"Truly she did feel very sad and very much frightened; for she found her face and her whole body covered with coarse brown hair; and worse than all, when she went out of the house everybody started to run away from her. She tried to tell them that she was only Callisto and not a bear, as she seemed; but when she tried to talk she could only growl.

"Her troubles seemed more than she could bear; but the worst had not come yet; for when she tried to get people to listen to her, the men came with spears to kill her. Then poor Callisto fled to the forests in despair. But no help came.

"For years Callisto lived in the forests with no one to talk to, or rather to growl to; for she could not talk, poor thing. At last one day as she went down to a brook from which she used to drink every morning, she saw a fine young hunter not far off. Once more she tried to tell of her sorrows. But it was in vain; only a growl came for words. The hunter seemed to be surprised at the bear who followed him with growls. But supposing the bear was angry and would try to destroy him, he took his spear to hurl at the bear.

"Just then Callisto saw that the hunter was her dear little boy Arcas, grown to be a young man. Horror that he was about to kill her, his mother, and great joy at seeing him once again, took from poor Callisto all power of moving or speaking.

"In such sore distress Callisto called upon Jupiter to help her. Jupiter was the king of the gods and was even more powerful than Juno, his queen. He took pity on Callisto, and granted to her that both herself and her son Arcas should be placed in the heavens, there to stay forever. And there they are, as you have seen; for the seven stars making the Dipper are a part of the Great Bear. I am sure you can all tell me what part the handle of the Dipper is.

"You are right; the handle is the bear's tail, and the bowl is in the haunches. The other stars in the Great Bear are faint ones and we will not try to find them now.

"I must tell you that Juno was very angry when she saw that Callisto and Arcas moved in the highest circles; and she still wished to injure them. She went to the goddess of the earth and made her promise that Callisto and Arcas should never rest their feet upon her bosom. But that has not really harmed the bears; for of course, they would prefer to stay in the heavens where every one on earth can enjoy their light and beauty."

The children listen attentively to the story, and then ask to be told where Arcas or the Little Bear is to be found.

The teacher thinks that it will be too hard for her children to find Arcas; but she is sure that they can find one star in the Little Bear. She draws the Big Dipper on the board, as nearly as possible in the north of the room, a little to the west. Then the children find the two stars in the bowl farthest from the handle, and the teacher tells them that these two stars are the Pointers, that they are so called because they point to the North Star. This star is now drawn in its proper place. The children are told that the North Star is as bright as the bright stars in the Great Bear.

The children are still eager to have the Little Bear, or Arcas as they like to call him, drawn; so the teacher draws the seven stars that form the Little Dipper, and tells the children of the two bright ones besides the North Star. The children resolve to look for the North Star first, and then find the two bright ones that are near the second and third stars in the handle of the Big Dipper. They feel pretty sure that if they can find these three, they will be able to find the faint ones between these brighter ones.

The teacher tells her little ones that she shall not mind in the least if they do not find any stars in the Little Dipper, except the North Star; but that she is very particular about having them look so well at the Big Dipper that they can see it well enough to draw it tomorrow. She also tells them that there is another group of very bright stars with a most beautiful story, that they are to find after they have seen the Great Bear, or Callisto, or the Big Dipper enough.

The children like very much these rhymes about the Bears.

THE CHILD AND THE BEAR.

"Tell me, bright stars in the sky,
You seven I watch and love,
Are you happy up so high
Where you live and move?

"Would you like to live once more
On this green earth so fair?
And be a woman as you were
Before you were a bear?

"Tell me what you are, bright ones;
Are you jewels fair?
Pearls or rubies, precious stones,
Diamonds rich and rare?

"Are you daisies in the blue?
Are you lamps to light?

Are you cherubs peeping through
With your eyes so bright?"

"Little child, I love to live
In the far cold north.
I am happy, glad to give
Light to you on earth.

"My bright jewels, seven you say,
Sparkle in their might.
Do as well your work by day
As I do mine by night.

"What I am you cannot know,
While you are so small;
You must study, watch, and grow,
Ere you know it all."

METHODS THAT HAVE HELPED ME.

(FIVE MINUTE SUGGESTIONS.)

THE following papers, under the above heading, were read at the Tenth Meeting of the Eastern Connecticut Teachers' Association, held in the Slater Memorial Hall, at Norwich, Connecticut.

SPELLING.

BY PRIN. THOS. LATHAM, GALES FERRY, CONN.

Fellow School-Ma'ams: —

Spelling is an important branch of education.

The results of poor spelling are sometimes disastrous. A young man, with a good trade and highly respectable family connections, wrote a letter to a young lady of my acquaintance, with the idea of opening up negotiations, which might result in a very intimate acquaintance; but the young lady had been to a boarding school and she was very intelligent. She lold me that she would have nothing to do with that young man, for, said she, "He spelt love, l-u-v."

Now the inference, which I drew from that incident, is that to an intelligent young lady, l-u-v is but a counterfeit representation of the genuine emotion.

"There is no royal road to learning" is an old adage, and a process for making good spellers of the dull, the lazy, and the careless has never been and will never be invented.

And some of the poor spellers, and their "name is Legion," are by no means to be despised, for many of them have many noble traits of mind and character. Mark Twain said that he had a cousin who was a good, kind soul, but participating in an evening game of amusement, in five minutes' time she could make but one word, from letters contained in the word cofferdam. Her word was calf, which she spelt c-a-f-f. And, said he, "*She was a good, kind soul.*"

But, although she might have been kind, she was not the kind of speller that we would have our most intelligent pupils imitate. Most of us would conclude, that if she ever had an opportunity to learn spelling she was either stupid or lazy. We have heard of two other very lazy spellers. One of them spelt Andrew Jackson, &-r-u J-a-k-n, and the other whose name was John Hole, signed his name, J. and punched a hole through the paper with his pen.

But we speak of these, who have made shipwreck of spelling, as warnings to those, who, in the language of Longfellow would leave better "footprints on the sands of time."

Now, the whole secret of teaching children to spell consists in inducing them to take an earnest, active interest in the subject of spelling. This can be done more easily by the stimulus of a reward than in any other way.

I have provided a set of cheap blank books for the children which would easily contain several hundred words. I have said that we would select from certain pages of a book, to which they all had access, a certain number of words, perhaps twenty, each day. The teacher names a word, a pupil raises a hand, is allowed to spell it, and, if spelt correctly, it is written on the board. When twenty words are so spelt and written, the pupils copy them and that day's lesson is done. The children are told to study these books, and to memorize the orthography and pronunciation of the words, and also to obtain an idea of their signification.

When the list of words numbers a thousand, parents and friends are invited into the schoolroom and we have a spelling-school. Two Webster's High School Dictionaries were offered as prizes, which cost us one dollar apiece. The spelling was excellent, the parents were delighted, and the children were benefited. But we had to give four dictionaries instead of two, for one was to be given to a boy, and when the thousand words were spelt, three girls were on equal footing and like Oliver Twist were ready for "more."

Some of the words, which I copy from the list are chequer, vicar, heifer, halibut, celery, sanguine, cylinder, shepherd, separate, subtile, falcon, cygnet, wigwam, saleratus, trisyllable, huckleberry, aid-de-camp, blanc-mange, menagerie, belles-lettres, and there were nine hundred and eighty besides these.

For primary teaching, I like Noah Webster's old plan of ha, he, hi, ho, hu, hy; then pla, ple, pli, plo, plu, etc. I always offer prizes in my spelling classes, and while some learn much better than others, cream rises to the top, and dregs settle to the bottom.

LANGUAGE.

BY MISS E. S. PATTEN, COLCHESTER, CONN.

Isocrates caused to be inscribed in golden letters over the entrance to his school, "If you love learning you shall attain." I would ask to have written over the entrance to our schoolrooms, Create a desire to know the English language and it shall be attained.

The first step toward this is to make our boys and girls realize that they are to study and learn a language, just as truly as their older brothers and sisters do Latin or German; and that it is quite as difficult a task.

At the beginning of the year, in one of our talks with the children of the new grade, more than half of them were quite sure that they could write and speak the English language correctly. To show them that they do not and cannot and to awaken in them a desire to, is our work.

The first is a comparatively easy task, but happy indeed is the teacher who can stimulate and arouse in her pupils a desire to master this greatest and best of languages, for to teach one who has no curiosity to learn is like sowing a field without first plowing it. What I would like to emphasize in the brief time allotted to me, is not so much the one or many methods which have been most helpful, as two or three underlying principles or thoughts, which, it seems to me, we as teachers can ill afford to lose sight of—Language as learned through conversation, reading, and memorizing.

Suppose you wished to acquire the German language, would you not consider it a rare advantage to come in daily contact with one who spoke that language with native purity and simplicity?

So I say the first and best way for the child to learn the English language is to come in daily contact with a teacher who knows pure Saxon and speaks it well.

A principal in a neighboring city recently told me of a teacher in his school whose special work was teaching geography. She used such poor language, however, that he felt obliged to speak to her about it, saying its effect was beginning to be apparent in the pupils and she ought to be more careful. The reply was, "I am not hired to teach language." "But you do teach it most effectively," said the principal.

None of us can hope to be a Socrates whose sole instrumentality in exerting such a mighty influence upon men was oral speaking, but we can give the children the benefit of one who uses good English.

I was surprised to hear one of our eminent educators say at Hartford

"We are so enslaved by trying to teach our pupils to read that we do not have time or neglect the teaching of language." For it seems to me by reading they are getting the material for their language work. Did not Professor Harper in that same meeting tell us that to acquire the Hebrew or any language one must read, read, read? Every builder has some model, some criterion, to guide him in his work. The child no less needs that from which to model in his sentence building and a little farther on in his composition writing. Where can he get this ideal so easily and so well as by reading the choice selections from our best authors, which are now so admirably arranged for children? Do I hear some one say if the child studies and imitates the language of others, he will be only a copyist without a bit of originality? Every dome in the world has been modeled after the Roman Panthenon. The boyish enthusiasm of Scott was aroused by reading Percy's collection of old ballads and poems. It has been said but for this reading we might never have had "Lady of the Lake" or Waverly. As we read in St. Nicholas from month to month the story of Lord Fauntleroy I know that more than one child caught a glow from its language as well as from the story.

To again quote Professor Harper, "If you would learn a language, commit passages from it." For in no way can you get such a knowledge and command of the language. I would urge the necessity of having pupils commit pure and ennobling English. In this way, grand thoughts, and beautiful and correct language become branded into their minds and will unconsciously affect their own speech and writing.

In my room last month, we tried to see who could get the handsomest cluster of autumn leaves. A boy was the winner. The cluster was pinned where we could see and enjoy it during the day. Just at the close of school I asked who could think of a quotation suggested by the leaves. At the moment but one occurring to me, I was surprised at the ready response from the children. Several were given, as,—

"Little by little the leaflets grow,
Forming a cool and grateful shade,
Little by little your gifts bestow,
Till some poor life is happier made."

"Yes," I said, "the first part applies to the leaves and the last to Robbie, who by his gift has made our lives richer and happier to-day. But you have not thought of mine!" This added spur was all that was needed to bring out "A thing of beauty is a joy forever."

Matthew Arnold in his report as inspector of schools says, "Learning by heart is often called, disparagingly, learning by rote, and is treated as an old-fashioned, unintelligent exercise and a waste of time."

But adds, "It is an exercise to which I attach great value. For thus is removed a signal mental defect of our school children, their almost incredible scantiness of vocabulary. By enlarging their vocabulary we enlarge their circle of ideas and bring them under the formative influence of really good literature." It is often urged that children cannot understand and appreciate poetry. But any child who has sat in the sunshine and heard the birds sing and felt the wind blow and gained pleasure thereby, has within him the germs of poetic feeling.

The work in these three lines of which I have spoken must be done in a teacher's own way. The methods used do not so much matter. The one thing needful and indispensable is love and enthusiasm for this work; never losing sight of the fact, "That what the child admires, the youth desires and the man acquires."

IN DISCIPLINE.

BY MRS. MARIA STARR, NEW LONDON, CONN.

"Poeta nascitur, non fit," is equally true of the teacher. The spirit which shows itself in a look or a gesture and which compels instant obedience is inborn. Its full development can be secured only by years of patient work and care.

I do not bring to you any fine spun theories to be wrought out upon impossible children, such as we often hear about but never see, but one or two methods which have helped me among the very natural boys and girls who come under my care, and who are very much like the boys and girls I used to know years ago.

By ringing the bell ten minutes before the regular time, and requiring every pupil in or near the building to come in and take his seat, I find that much disorder is saved in pencil-sharpening, passing out papers, and doing the many little necessary things that are to be done. As the gong strikes at nine sharp and devotional exercises begin immediately, I find that tardiness is avoided, and that more work is accomplished than would be imagined.

There are always in every school bright children who finish their work before the others, and then are ripe for mischief. For this class I have been placing on the board topics from the daily news of the day. For instance, selecting some item from the newspaper embodying some interesting fact, I write this item on the board with a few suggestive questions, and as we have an excellent reference library at our command I have those who have finished their regular work look up the questions and give the result to the school in a few moments which I reserve for this purpose. I then supply in a brief talk whatever is lacking that seems to be important. I am often quite surprised at the ability shown in writing and the interest manifested by the children. It also creates an interest at home, as I find by the little statements prefaced by "Papa says."

The crying need of children is for something to *do.* Supply this need by the right kind of work, and the children are happier and better and the cases of discipline will diminish to a wonderful degree. I am not in favor of this interminable keeping after school. It wears out the patience of both teacher and pupil. My good Superintendent of Terre Haute, Indiana, with whom I taught nine exceedingly pleasant years, used to say to his teachers "If you haven't done your duty by four o'clock, go home and pray for grace and try it over again the next day." This advice I frequently give to my teachers, when I find them tired out, yet trying to supplement their day's work by staying after school. The earth will continue its revolutions whether Johnnie Brown learns his multiplication table to-day or not, but if you exhaust yourself by continuing your work when you should be resting, you are the loser, and Johnnie Brown does not gain in the least.

In conclusion, I would say that the nearer school discipline can approach to the ideal home discipline, the better for both pupil and teacher, as more natural relations can be sustained than where there is so much of "red tape" as to keep the teacher too far away to enter truly into the life of the children.

GEOGRAPHY.

BY MISS E. M. CURTIS, PUTNAM, CONN.

Geography is not an exact science, like arithmetic, which may perhaps be learned once for all time. Geography is constantly enlarging its scope and changing its facts as the world progresses. A wide-awake teacher must make a fresh preparation every day and not depend too much upon the textbook.

Having a class which has studied local geography and is just ready to begin general geography, show them by means of the globe a correct representation of the shape of the earth. Then explain to them the map, not as a picture of the earth's surface, but as a map of it. One of the first things necessary in teaching geography is to see that a child clearly understands the difference between a map and a picture. Bring in pictures which shall represent the different countries and places and let them see the difference between a picture and a map. It is important that they do not regard the map of North America or some other country as a picture of that country, but only as a map showing the relative topography of the country in relation to land and water, city and country, etc. Any failure here makes geography tiresome and the interest soon wanes so that the teacher finds she has to keep pupils after the session to learn the geography lesson. Show the pupils pictures of the countries, cities, etc., and let them find out the different classes of people and their occupations and why they are thus differently engaged, and they will soon become acquainted with the occupations, dress, manner of life, etc., of the people, and at the same time with the climate, topography, appearance, etc., of the country. Let them observe that geography is a description of the surface of the earth as the home of man and not as a place or locality simply. The pupils soon get much interested in finding out all the new facts, and with the Cyclopædia, gazetteer, and textbook they will learn a great many new things. If they bring in something that is new to you, tell them so, commend them for it and they will like you the better and they will be all the more anxious to learn all the additional facts in their power.

I make it a point to tell my pupils one new fact every day and that must be something which I think they cannot find out for themselves. After talking about the different places the pupils are required to locate them on the map, and finding such places on the map as they have learned something about has a special interest for them.

They may now reproduce the map and pictures on the blackboard. They may tell in what direction they would go in order to find the place under consideration, the distance, etc. Whatever attracts the eye of a child awakens an interest in his mind. Hence, with blackboard and pictures the teacher can do much to interest him in geography. Once interested, they will not need to remain after the session because they have failed upon the geography lesson, for this study will prove to be one of the most interesting of the studies composing the entire school curriculum. Make your talk to them interesting and give them but short lessons, in order that their ideas may be clear and not confused. In this way what they learn will be well learned.

Begin by learning something of their own town, county, and state. Then the surest way of learning accurately the important truths and principles of geography is to travel and see, each for himself, the different places. As it is impossible for all the children to do this, the teacher must exercise the most natural and rational devices to interest them and to give them the necessary information. Hence I have given the foregoing facts and methods which have proved beneficial in my classes.

BUSY WORK FOR LOWEST CLASS.

BY ELLEN E. KENYON, BROOKLYN, N. Y.

1. Painting from object or memory.

2. Drawing from object or memory.

3. Laying a given number of sticks (two to five) in as many positions as possible and drawing the figures thus produced.

4. Sorting sticks or bits of wood by colors.

5. Sorting sticks or bits of wood by lengths, (one, two, three, four, and five inches).

6. Drawing on transparent slates.

7. Drawing through stencils.

8. Laying split peas and shoe pegs in geometric or natural figures.

9. Taking the impress of leaves, etc., in clay.

10. Clay modeling.

11. Making hills and valleys and laying out farms and villages in sand pans (something to represent houses, trees, fences, and animals being furnished).

12. Laying any number of shoepegs or toothpicks in twos, threes, or fours.

13. Getting the square from the oblong in paper by folding on the diagonals of the square and then opening out and folding down the superfluous piece.

14. Creasing and tearing paper in straight lines.

15. Dividing squares or oblongs into oblong halves, by folding or by creasing and tearing.

16. Dividing squares or oblongs into triangular halves.

17. Folding and cutting paper squares for pinwheels.

18. Cutting out pictures, exactly following the lines of the figures with the scissors.

19. Making lamp-lighters.

20. Threading shoe buttons on safety pins in twos, threes, fours, and fives.

21. Sorting solid or paper forms.

22. Cutting circles, triangles, and squares with or without a pattern.

23. Drawing geometric or natural figures by tracing around paper forms.

24. Attempting same without guide.

25. Measuring an inch, cutting worsteds into one-inch lengths.

26. Making books by laying several paper squares or oblongs together, folding down the middle and sewing down the crease.

27. Making gardens (drawing geometric figures and covering lines with split peas).

28. Drawing illustrations for some story just told.

29. Drawing illustrations for some given problem in number.

20. Writing from copies.

31. Filling out equations, after they have learned a little of the language of number, thus: $4+2=\quad$, $3-\quad=1$, $2\times\quad=6$.

32. Making five marks, rings, or crosses and the figure 5 beneath, thus: $\underset{5}{\text{o o o o o}}$ — repeating ad libitum.

ONE WAY OF MANAGING GROUP RECITATIONS WITH BUSY WORK.

A teacher whose class was provided with individual desks, in six rows, arranged for five kinds of busy work to accompany each recitation. Four were at the desks, each occupying one row, and the fifth was at the blackboard.

The last row of children, numbering ten of the most backward, were the first to recite. The next to the last row occupied themselves, during this first recitation, at the blackboard, and the other four rows at their seats.

At the close of the lesson a tap of the bell sent the group at the teacher's side and the group at the blackboard to their seats. Another tap of the bell sent the first row to the recitation corner, the second row into the seats thus vacated, the third row of children into the second row of seats, the fourth into the third, the fifth into the fourth and the sixth to the blackboard. Thus, two taps of the bell sufficed to set every child in the class to work at a fresh task. The children in their seats required but little supervision, the charm of constant novelty holding their attention to their work.

During the reading lessons, the occupations were usually chosen from Nos. 1, 2, 4, 6, 7, 8, 9, 10, 14, 18, 25, 27, and 29. During the number lesson selections were made from Nos. 3, 5, 12, 13, 15, 16, 17, 20, 21, 22, 23, 24, 26, 28, 30, and 31; and the occupations were made to deepen the impressions conveyed at the number table.

The writing lesson was given to the entire class, and preceded the group work, so as to furnish one form of silent occupation.

PRACTICAL METHODS OF TEACHING SPELLING.[1]

(*Second Series.*)

BY ANNA B. BADLAM.

Rice Training School, Boston, Mass.

I.

THE aim of all elementary instruction should be to give the child's mind the power and the opportunity to act, hence observation and practice must be the pivots upon which the work turns.

However well we may train the child's powers of observation, the facts of knowledge he may gain through them will be of little use to him, unless he is encouraged to impress these facts upon his mind gradually and naturally by frequent repetition, and is trained to group them into new and pleasing combinations.

Isolated facts, so to speak, can make little lasting impression upon the child's mind, but grouped in combinations, however simple, they awaken it to fresh activity.

All work with the young child should be simple, yet at the same time it may be made artistic and finished; but, on the other hand, in aiming for simplicity and finish, care must be taken not to make the work too finical in character. Extremes are to be avoided; for the character of all work with the young child should not be too diffuse on the one hand, or too precise on the other.

The inexperienced teacher will, doubtless, have to guard against the former extreme, while the experienced teacher will have to guard, perhaps, still more carefully against the latter extreme. One needs to let the mental eyes sweep the broad field of education, else one's vision will become narrowed, as it were, and in time only the immediate surroundings, irrespective of what may lie beyond, will attract the attention.

Elasticity, if I may be permitted to use the term, should characterize the nature of the instruction in primary schools. It matters not so much that the child's speaking or reading vocabulary reaches a certain specified limit as to the number of words that it must contain; but that this vocabulary shall serve as the key to unlock the vast treasures that

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[1] Copyright, 1888, by ANNA B. BADLAM.

his native language holds for the child. Hence, the need of utilizing in every way the facts that he has gained while securing this vocabulary, whether for speaking or reading.

His speaking vocabulary he must be trained to use in connection with the general work in language, since that constitutes a large part of the daily instruction; nor must one lose sight of the fact that words to be of any value to the child must appeal to him in the relation they bear to other words in the sentence. Hence the reason for training the child to express his thoughts in clear, well-finished sentences.

His reading vocabulary admits of still greater variety of usage; for by means of it the child can be trained to recognize the value of letters as to their sounds, and easily learns to substitute various initial or final letters for those which he finds in the original key-words, which he has made his own. As the work progresses, his knowledge of the powers of letters aids him to a still greater degree when he considers words as *stems* to which he is to *prefix* or *add* new syllables.

This training, valuable as it may become to him in the work of learning to read, becomes of double value to him when he needs a vocabulary for writing. The work of teaching a child to spell would be without limit did one not utilize time and space, and look far enough into the more advanced work that lies before the child in the future.

Much of the drudgery of the work might be dispensed with, if one could always remember to take advantage of the child's natural curiosity and love of discovery, which make many a mental effort a pleasure rather than a task to him.

Do not define too closely, then, the boundary line between the fields of primary and grammar school work; but occasionally give the child freedom enough to step beyond the limits of his own field of knowledge that he may perceive for a moment the beauties of the new field to which his attention has been called.

SPECIAL NOTES FOR THE TEACHER.

1. Teach the *value* of *words*.
2. Teach the *value* of the *sounds of letters*.
3. Teach the use of *stems* of words in connection with *prefixes* and *suffixes*.
4. In word-formation exercises require the child first to use in sentences all the words formed from the stems; later, he may be allowed to tell how any words, as *works*, *working*, *worker*, *worked*, are formed from the stem *work*.
5. Always present the written forms of words to the child, since these are what we wish him to hold as mental pictures for future use.

6. In all slate exercises require the child to copy the sentences from the blackboard, rather than to expect him to do individual work, which at best, would be only imperfectly done.

Lesson 1. Words used as Stems to form new words, by means of the various Suffixes.—*E* long.

see	*sees*	*seeing*	*seer*				
seem	*seems*	*seeming*	——	*seemed*			
keep	*keeps*	*keeping*	*keeper*	——			
sleep	*sleeps*	*sleeping*	*sleeper*	——	*sleepy*		
bleed	*bleeds*	*bleeding*	——	——	——		
creep	*creeps*	*creeping*	*creeper*	*creepers*	——		
meet	*meets*	*meeting*	——	——	——		
seek	*seeks*	*seeking*	*seeker*	*seekers*	——		
feel	*feels*	*feeling*	*feeler*	*feelers*	——		
weep	*weeps*	*weeping*	——	——	——		
weed	*weeds*	*weeding*	*weeder*	*weeders*	*weeded*	*weedy*	
feed	*feeds*	*feeding*	——	——			
need	*needs*	*needing*	——	*needed*	*needv*	*needful*	*needless*

Lesson 2. Words used as Stems to form new words, by means of the various Suffixes.—*E* long.

1.

sea	*seas*	*tea*	*teas*	*pea*	*peas*

2.

eat	*eats*	*eating*	*eater*	——	——
meat	*meats*	——	——	——	——
beat	*beats*	*beating*	*beater*	——	——
seat	*seats*	*seating*	——	*seated*	——
heat	*heats*	*heating*	*heater*	*heated*	

3.

ear	*ears*	*eared*		
fear	*fears*	*feared*	*fearful*	*fearless*

4.

reach	*reaches*	*reached*	*reaching*		
teach	*teaches*	——	*teaching*	*teacher*	*teaches*

5.

eat	*eaten*
beat	*beaten*

Lesson 3. Words that tell the kind formed from name words, by means of the Suffix *en.*—*A* and *I* short.

wax	*waxen*
flax	*flaxen*
silk	*silken*

Lesson 4. Irregular forms of action words.—The *present* and the *past* forms.

eat	*ate*	*keep*	*kept*	*creep*	*crept*
teach	*taught*	*weep*	*wept*	*bleed*	*bled*
beat	*beat*	*sleep*	*slept*	*meet*	*met*

The Long Sound of I. (ī)

Lesson 5. The initial letter changes.—*I* long.

bind
mind
rind
find
kind
blind
mild
wild
child
pint

THE STUDY OF SYNONYMS.

BY RUTH E. MOWRY.

WATCH AND OBSERVE.

1. WATCH is derived from the Anglo-Saxon.
OBSERVE is derived from the Latin.
2. Both mean to notice with care.
3. To WATCH is to keep a constant, close, and eager observation.
To OBSERVE implies less strict notice than to WATCH.
We WATCH for what is to take place hereafter.
We OBSERVE with coolness the present state of a case.
We WATCH when we are suspicious; we OBSERVE when we are interested.
4. "WATCH thou and wake, when others be asleep."
"To pry into the secrets of the state."
The eclipse of the moon was very fine, and we were glad of the opportunity to OBSERVE it.

WIN AND GAIN.

1. Both are derived from the Anglo-Saxon.
2. Both mean to obtain.
3. WIN is to obtain in competition with others, while GAIN simply implies to get something by exertion.
   A person WINS a victory or a prize, by taking it from others in a struggle between them; a person GAINS knowledge, or a prize, simply by striving for it.
4. "WIN me, and wear me."
   "We go to GAIN a little patch of ground."

MATURE AND RIPE.

1. MATURE is derived from the Latin.
   RIPE is derived from the Anglo-Saxon.
2. Both words describe fullness of growth.
3. MATURE brings to view the process; RIPE indicates the result
   We speak of a thing as MATURE when thinking of the successive stages through which it has passed: as RIPE when our attention is directed to its uses or ends.
4. "The youngest son of Priam, a true knight, not yet MATURE, yet matchless."
   "Apples and grapes gathered before they be RIPE, and laid on heaps together, will RIPEN enough afterwards."

PLUNDER AND PILLAGE.

1. PLUNDER is derived from the Anglo-Saxon.
   PILLAGE is derived from the Latin.
2. Both refer to that which is taken from another, usually from an enemy.
3. PILLAGE refers particularly to the act of stripping the sufferers of their goods; while PLUNDER refers to the removal of the things thus taken.
4. "I fear me, a messenger, to feast my train."
   "Within a town of war so lately PILLAGED."
   "Will be too costly and too troublesome."
   "Nebuchadnezzar PLUNDERS the temple of God."

EDITORIAL.

HOW many educational papers and magazines have you arranged to take this year?

THE winter months are the best time of the year for hard work on the part of teachers and pupils.

THE teacher who is rarely tardy or absent has usually the best attendance. Example is stronger than precept.

WHAT part of your salary have you planned to use for needed self-improvement in the purchase of books, attending lectures, etc.?

A TEACHER should not expect every member of the class to reach perfection in every lesson. That could only be possible in a class of angels.

ENTHUSIASM is necessary to success in any profession or business. Especially is it needed in teaching. Teachers who are called "cranks" in some one line of work, are always excellent teachers in that particular study.

THE following five questions should be frequently asked by teachers in self-examination: —

"When a child, how did I behave at school?"
"Did I then understand at once everything the teacher said?"
"Did I love all my teachers?"
"If not, why not?"
"Did any of my teachers ever make a mistake?"

MRS. STARR utters a truth of the greatest importance to every teacher when she says, in her "Five minutes on School Discipline," "The crying need of children is for something to *do*." Observe also her good commonsense in saying, "I am not in favor of this interminable keeping after school. It wears out the patience of both teacher and pupil."

ALL instructors should remember that there is a wide difference between teaching and hearing recitations. Most of our poor teachers simply do nothing but hear recitations; a few too zealous teachers do nothing but instruct, or lecture; the best teachers of the present day divide their time into three parts: one part for teaching, one for study, one for recitation. In many studies, these periods need not be equal, but they should generally follow the order given above, or teaching and study may be pleasantly intermingled in preparing the lesson. When the recitation time arrives the pupils and not the teacher should do the talking.

IF the teacher introduce into each lesson local or timely references, the interest of the class will be greatly augmented. For instance, suppose she speaks in the history class of the city's or town's connection with the event or war under consideration; in geography, she asks the pupils to compare the climate of that locality with the climate of the country or state they are studying; in arithmetic, she gives a concrete example drawn from the daily experience of the common grocer or the home market, or puts into the example the name of some historical personage; in spelling, the words are made into little sentences. or the lesson is selected by a pupil. In some such way the thinking teacher creates new interest and holds the attention of her class.

VENTILATION, it is feared, is frequently left to take care of itself in most public schoolrooms, as far as watchful oversight on the part of the teacher is concerned. We once visited a private school held in a medium-sized room in a private house. The lesson in Natural History was given by an accomplished teacher of that subject, in a way to satisfy any modern Froebel. But we noticed this enthusiastic teacher every ten minutes stopped her teaching to look at the thermometer standing on her desk, and five or six times changed, by opening doors and windows for a minute or two, both the air and the temperature of the room. As a happy result no one became sleepy during the hour. This thoughtfulness had become a habit which all teachers in public schools will do well to imitate.

ALL teachers of geography should constantly bear in mind the importance of using pictorial illustrations to aid the pupils in obtaining a correct idea of the characteristics of different countries, sections, cities, and towns. The pictorial papers published at home and abroad will, any or all of them, be found very useful in this direction. Such papers as the *London Illustrated News*, *Harpers' Weekly*, *Frank Leslie's Illustrated Newspaper*, *The Daily Graphic*, etc.

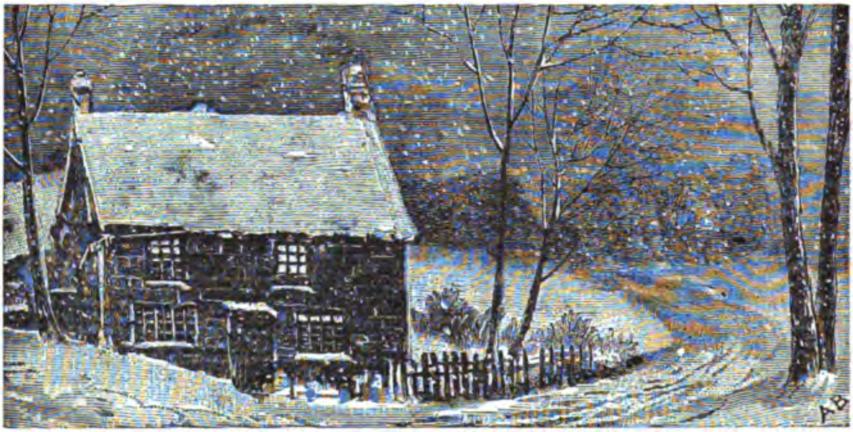
should be looked over, and occasionally a number will be found so full of useful geographical pictures that it must be bought and the pictures cut out and properly arranged in a scrapbook for the purpose. *The New York Daily Graphic* for Nov. 27, 1888, has a Kansas City supplement, which will be found serviceable in studying about western cities. Books and pamphlets of summer travel are issued by the great railroad lines and will be given to teachers asking for them at the railroad offices. These also will be found very effective aids.

IS it wise frequently to detain children after school to make up lessons ?

When we began to teach we followed the custom of the teachers about us, and frequently detained the pupils to make up lessons. The results, as far as they could be observed, were unsatisfactory. The children committed to memory the lesson so as to get out of the prison, but forgot it at once. They did not love their teacher any better the next day for the " punishment," as they called it. Many of the parents justly complained because their children were not at home to render some needed assistance. The teacher's condition for work in the evening in preparing the next day's lesson and for the right and best performance of the next day's duties, was greatly impaired. We therefore heroically tried the experiment of *not* keeping the children after school, except in a few individual cases for a simple form of punishment. Everybody liked the change, and strangest of all, the lessons were better learned than by the old way, because the children were happier.

GEOGRAPHICAL lessons may be enlivened by a judicious sprinkling of etymology. Suppose the topic happens to be the mountains, rivers, seas, and towns of China. These words are new, strange and hard to remember as they are frequently taught. Before the children try to memorize these words the teacher should write on the board: — *Pe* = north, *Tong* = east, *Nan* = south, *Si* = west, *King* = capital, *Hai* = sea. Then let him explain that as in English we have North Sea, South Sea, and Cape Town, so the Chinese have Pe-king, or Pekin, meaning the Northern Capital, and Nan-king, or Nankin, meaning the Southern Capital. Tong-king then means the Eastern Capital; Nan-hai, or Hainan, the Southern Sea ; Shanghai means Up the Sea ; Hoang Ho, the Yellow River; Yong-tu-Kiang, the Blue Stream; Thain-Shan, the Mountain of Heaven, and Maimatchin, the Place of Trade, the last syllable meaning *place*, and the first two, to *buy* and *sell*. These dreaded names have appropriate meanings now, and are easily learned. Certain geographies give all needed help in this matter.

HAPPY HOURS.



A WINTER SCENE.

[Let the children write a story about the above picture.]

AN AFTERNOON WITH LONGFELLOW.

ARRANGED BY F. E. KENDALL.

Quotations from Longfellow. (*Voluntary.*)

Sketch of the life of Longfellow. (*By one of the Pupils.*)

Questions in regard to him. How did he look? Where did he live? Why does the world love and respect him? etc.

The Arrow and Song. (*Recitation by the School.*)

A Psalm of Life. (*Recitation by one of the Boys.*)

Review of Miles Standish. (*By one of the Pupils.*)

Questions in regard to Miles Standish. Who was he? What was the noblest thing he did? etc.

Singing—"The Slave at Midnight." (Found in the *Independent National Music Reader.*)

Flowers. (*Recitation by one of the Girls.*)

The Village Blacksmith. (*Recitation by one of the Boys.*)

Song—"The Bridge."

The Children's Hour. (*Recitation, in Concert, by three Girls.*)

The Builders. (*Recitation by one of the Boys.*)

Song—"The Day is Done."

ROBERT BURNS: A BIRTHDAY EXERCISE.

BY RUTH E. MOWRY.

Teacher: Robert Burns was a Scotch poet, — a poet in the truest sense of the word. Coleridge says, "Poetry is the blossom and the fragrance of all human knowledge, human thoughts, human passions, emotions, language." Poetry is another name for beauty. Look out of the window at the deep blue of the sky, dotted here and there with white fleecy clouds, and notice how pretty the trees look as the sun strikes their ice-covered limbs and branches, transforming them into so many frosted pinnacles of beauty. See how exquisite is the covering earth has put on, white and spotless, glistening in the sun, and yet we see such scenes so often that they become commonplace and we forget how beautiful they are. We ought not to let them become commonplace. They are the poetry of God's world, the poetry of nature. The poet sees new beauties all the time and we can cultivate the same talent, if we try, even though we may not be able to put our thoughts into words. When we enjoy the beautiful scenes placed all around us, and are thankful for them, that is poetry, too, for we are thinking beautiful thoughts. Then there is the "poetry of life," but that is more difficult still. It is not written, but is lived. A man trying to explain this to a little child said, "If you are bright and cheer somebody when you feel more inclined to go away and have a good cry by yourself, that is poetry. Or, if you are very fond of roses, and you give away the last in your garden to a poor man who has none, that is poetry. It is being unselfish, and brave, and bringing happiness into other people's lives." The little child sat looking intently, but the puzzled look had vanished. "I see," she said, "father told us about the great white angel who writes in the book. I suppose he is writing down that part of the poetry."

The poetry that Burns wrote was the poetry of nature, and it was of that part of nature which oftentimes seems the most commonplace. One of his poems is entitled "To a Mouse," on turning her up in her nest, with the plough, November, 1785. Another is to "A Mountain Daisy." "The Cotter's Saturday Night" is a beautiful description of an uneventful, commonplace evening in one of the humblest homes of Scotland. "Coming Through the Rye," "Hey, the Dusty Miller," and "John Anderson, my Jo," are all subjects of simple peasant life, "the sentiments and manners he felt and saw in himself and his rustic compeers." The true elements of poetry were in his life as well as his writings.

Now let us see what we know about this Scotch poet, to whom we are indebted for so many beautiful thoughts. When and where was he born?

All: He was born in Alloway, near Ayr, on the 25th of January, 1759.

Teacher: When did he die?

All: July 21, 1796.

(Here let one of the older pupils give a short account of the poet's life, giving as many interesting anecdotes as possible. A little help from the teacher will make this very attractive as well as profitable.)

Singing: "The Banks of Doon."

(If the pupils are not familiar with the tune, practice it several times before the day for the exercise.)

Recitation: "To a Mountain Daisy," by nine of the younger pupils.

(For this exercise let the teacher make nine daisies. Cut them from white cardboard, making each one about a foot in diameter. Color the centers yellow, and fasten to each daisy a wooden handle, two feet in length, which should be painted green. Have the first pupil go to the center of the platform, and holding her daisy a little in front and to the right of her, recite the first verse. When she has finished, she steps back and the second child comes upon the platform, and holding her daisy in the same position as the first one, recites the second verse. She then steps back to the side of the first pupil, and the third comes upon the platform and does the same. When the nine have recited their verses and stepped back to position, they should be in the form of a half circle, with their daisies held in the right hand about at the shoulder. Turning to the left and facing the side of the platform they then march off. To make the exercise symmetrical and perfect, considerable practice will be necessary.)

Recitation: "The Cotter's Saturday Night." By one of the older pupils.

Singing: "Flow Gently, Sweet Afton."

Recitation: "John Anderson, my Jo."

"John Anderson, my jo, John,
When we were first acquent,
Your locks were like the raven,
Your bonnie brow was brent;
But now your brow is beld, John,
Your locks are like the snaw;
But blessings on your frosty pow,
John Anderson, my jo.

"John Anderson, my jo, John,
We clamb the hill thegither;
And monie a canty day, John,
We 've had wi' ane anither:
Now we maun totter down, John,
But hand in hand we 'll go,
And sleep thegither at the foot,
John Anderson, my jo."

(Let a boy and girl go upon the platform together. They turn partly toward each other and the girl recites the poem, addressing it to the boy. At the beginning of the second verse they take hold of hands and slowly walk toward one end of the platform, the girl going on with the recitation; at the words "Now we maun totter down, John," they turn and go towards the other end of the platform. If the hair of the two be powdered, and if old-fashioned dress can be obtained, the effect of the piece will be greatly enhanced. When finished, let the two bow together to the audience and remain on the platform.)

Recitation: "Auld Lang Syne."

(The two on the platform turn toward each other and the boy gives the first stanza of "Auld Lang Syne," addressing the girl. The whole school sing the chorus. The boy then recites the second stanza, and the school sing the chorus, and so on through the piece. In the stanza, "And here's a hand, my trusty fiere," they join hands. The school must understand just when they are to come in with the chorus, and begin together.)

Singing: "Coming Through The Rye."

QUOTATIONS.

"I 'm truly sorry man's dominion
Has broken Nature's social union,
An' justifies that ill opinion,
Which makes thee startle
At me, thy poor, earth-born companion,
An' fellow-mortal."

"A prince can make a belted knight,
A marquis, duke, and a' that;
But an honest man 's aboon his might,
Guid faith, he mauna fa' that."

"Auld Nature swears, the lovely dears
Her noblest work she classes, O;
Her 'prentice han' she tried on man,
An' then she made the lasses, O."

Have each pupil, unless there are too many, select some quotation from Burns's works, and bring to the teacher beforehand, for approval, and recite them in turn, each pupil standing by his own chair.

Recitation: Bannockburn.

Teacher: Burns was a true patriot. He was willing to suffer for his country, and longed to do something for old Scotland's sake. The third stanza of Bannockburn, that has just been repeated for our benefit, is one that we should all of us remember; let us see if we can give it together in closing.

"Wha will be a traitor knave?
Wha can fill a coward's grave?
Wha sae base as be a slave?
Let him turn and flee!"

EXAMINATION QUESTIONS.

(These questions were submitted to the Eighth-Year pupils in the Cincinnati, Ohio, Public Schools. They are not "promotion" questions, but teaching questions, designed to disclose the pupils' real knowledge of the change of seasons, climate, etc.)

GEOGRAPHY.—GRADE A.

1. Why is it warmer at noon than at 9 o'clock, A. M.?

2. Why is it warmer in Ohio in July than in January?

3. In what month is the sun nearest the zenith at noon in Cincinnati? Farthest from the zenith? (2) What is the difference in degrees between the highest and lowest altitude of the sun here at noon?

4. Is the sun at this time (November) going from or approaching the zenith? When will there be a change? When the next change?

5. Why is the Torrid zone warmer than the Temperate zones? The Temperate zones than the Frigid zones?

6. If you lived at the equator would the sun ever be directly over your head at noon? If so, when?

7. In how many and what months is the sun at the equator north of the zenith at noon? South of the zenith at noon? What is true of the movement of vertical rays of the sun in the Torrid zone?

8. Are the rays of the sun ever vertical at the Tropic of Cancer? If so, when? North of the Tropic of Cancer? At the Tropic of Capricorn?

9. If you lived at Quito (on the equator), in what direction would your shadow fall at noon in July? In January?

10. In what month are the shadows of vertical objects at Cincinnati longest at noon? In what month shortest? Why?

11. When does the sun rise exactly in the east? (2) In what months does it rise north of east? South of east? (3) When does it rise farthest north of east at the equator? How many degrees?

12. When the rays of the sun are vertical at the Tropic of Cancer, which zone has no day? Which no night?

13. Which pole of the earth is now in continual darkness? Which will be next April? Why the change?

14. How many times in the year and when are the days and nights equal? (2) Is this true in all parts of the earth? (3) On what line are the rays of the sun vertical when the days and nights are equal?

15. In what month will the days at Cincinnati be the longest? The shortest? Will this also be true in all parts of the North Temperate zone?

16. Which has the longer day in summer, Cincinnati or New Orleans? Cincinnati or Chicago? Quito or Quebec?

17. Which has the longest days in July, the Torrid zone or the North Temperate zone? The North Temperate zone or the North Frigid zone?

18. How many and what seasons has the Torrid zone? Are the seasons the same on both sides of the equator at the same time? Why?

19. How many and what seasons have the Temperate zones? The Frigid zones? Why?

20. When it is summer in Ohio what is the season of the year in Chili? Why?

(*The following is an outline of the review work in Geography in the Eighth Year class of the Cincinnati schools.*)

GEOGRAPHY.

GRADE A — EIGHTH SCHOOL YEAR.

PRELIMINARY REVIEW.

Review of the first eighteen pages of the Complete Geography (pp. 5–18) during the first two months of the school year — including (1) form and motions of the earth; (2) circles; (3) zones; (4) seasons; (5) globes and maps; (6) land and water; (7) the sea — waves, tides, and currents; (8) inland waters — rivers and lakes; (9) the atmosphere; (10) winds; (11) forms of water; (12) climate; (13) plants, animals, and minerals; (14) population and races; (15) civilization (manners of life); (16) occupation; (17) government; (18) religion.

GENERAL REVIEW BY COMPARISON.

TO TEACHERS. — In these outlines, only the general features to be compared are indicated, and these should be carefully studied and *clearly and fully stated*. The teacher will need to prepare special topics for the more important comparisons, but, in their preparation, great care should be taken to avoid the spending of time *on comparatively unimportant details*. Chief attention should be given to the more important facts — to what has been called "the essentials of geographical knowledge." Special care should be taken to secure the study of similarities and differences.

I. ZONES.

COMPARE: 1. Torrid and Temperate Zones; 2. Temperate and Frigid Zones; 3. Torrid and Frigid Zones; 4. North and South Temperate Zones; 5. North and South Frigid Zones; WITH RESPECT TO: *a*. Bounding lines; *b*. Width in degrees; *c*. Comparative areas; *d*. Seasons — changes in each; *e*. Sun's rays; *f*. Day and Night; *g*. Characteristic plants and animals; *h*. Inhabitants — races, etc.

II. HEMISPHERES.

COMPARE: 1. Eastern and Western; 2. Northern and Southern; WITH RESPECT TO: *a*. Land masses and water — comparative extent, etc.; *b*. Zones — extent of land in each, etc.; *c*. Population and races; *d*. Nations — importance, etc.

III. CONTINENTS.

COMPARE: 1. Eastern and Western Continent; WITH RESPECT TO: *a*. Form and extent; *b*. Coast lines — directions, great indentations, and projections, etc.; *c*. Adjacent islands; *d*. Mountain systems and slopes; *e*. Plateaus and plains; *f*. River systems; *g*. Rainless regions; *h*. Zones and climate; *i*. Plants, animals, and minerals.

IV. OCEANS.

COMPARE: 1. Atlantic and Pacific; WITH RESPECT TO: *a*. Form and extent;

b. Comparative depths; *c.* Coast lines; *d.* Islands; *e.* Currents (most important); *f.* Tides; *g.* Winds; *h.* Navigation — commerce.

COMPARE: 2. Arctic and Antarctic; WITH RESPECT TO: *a.* Climate; *b.* Day and night; *c.* Explorations; *d.* Included islands.

COMPARE: 3. Indian and Arctic; WITH RESPECT TO: *a.* Situation; *b.* Climate; *c.* Winds; *d.* Currents; *e.* Navigation.

V. GRAND DIVISIONS.

COMPARE: 1. North America and South America; 2. North America and Europe; 3. Europe and Asia; 4. South America and Africa; 5. Asia and Africa; 6. Africa and Australia; WITH RESPECT TO: *a.* Situation — continental, boundaries, zones; *b.* Extent — comparative; *c.* Form and coast line; *d.* Surface — mountains, plateaus, slopes, and plains; *e.* Rivers; *f.* Other inland waters; *g.* Climate; *h.* Productions — plants, animals, and minerals; *i.* Nations — importance, etc.

VI. ISLANDS.

COMPARE: 1. Greenland and Cuba; 2. Iceland and Sicily; 3. Greenland and Australia; 4. West Indies and Sunda Islands; 5. Ireland and Ceylon; 6. Madagascar and Newfoundland; 7. Arctic Archipelago and Malay Archipelago; WITH RESPECT TO: *a.* Location; *b.* Size; *c.* Form; *d.* Surface; *e.* Climate — seasons; *f.* Day and night; *g.* Productions — plants, animals, and minerals; *h.* Inhabitants — race, occupations, food and clothing, houses, etc.; *i.* Government; *j.* Progress.

VII. COUNTRIES.

COMPARE: 1. United States and China; 2. United States and Russia; 3. Great Britain and Japan: 4. Austria and Brazil; 5. France and Mexico; 6. Chili and Portugal; 7. Germany and India; 8. Spain and Arabia; 9. Egypt and Peru; WITH RESPECT TO: *a.* Location; *b.* Form and extent; *c.* Surface — mountains, slopes, plains; *d.* Rivers; *e.* Climate; *f.* Productions — plants, animals, minerals; *g.* Population; *h.* Cities — most important; *i.* Occupations of people; *j.* Commerce; *k.* Government; *l.* Progress.

VIII. CITIES.

COMPARE: 1. New York and London; 2. Chicago and New Orleans; 3. Cincinnati and Paris; 4. Philadelphia and St. Louis; 5. Baltimore and San Francisco; 6. Washington and Rome; 7. Boston and Berlin; 8. Montreal and Venice; 9. Cairo and Mexico; 10. Peking and Tokio; 11. Canton and Calcutta; WITH RESPECT TO: *a.* Latitude; *b.* Situation; *c.* Population — size, growth, people, etc.; *d.* Characteristic features; *e.* Manufactures; *f.* Commerce; *g.* Importance.

N. B. It will also be a profitable exercise for pupils to name and locate the important cities on both continents, that have about the same latitude (say within one degree) as New Orleans, as Cincinnati, as Washington, as Chicago, as Montreal, etc.

A BASKET OF CHIPS.

Palestine now has 500,000 inhabitants; not as many as the city of Chicago. Of these only seven per cent. are Jews. — *Jewish Times.*

Three old mission bells that were brought to Santa Cruz from Spain nearly one hundred years ago, have been broken up and recast into one modern bell of 1,500 pounds. It was sacrilege to destroy the old bells, as they were of beautiful workmanship and very clear toned.

The sad tidings of the death of Dr. Eli T. Tappan, State School Commissioner of Ohio, will fill many hearts with pain. Doctor Tappan was one of the foremost educational thinkers and workers of this country. His loss to the cause is irreparable.

What we Look Like from the Moon. — Seen from the moon, which gravitates around us at the mean distance of 240,000 miles, the earth appears four times greater in diameter and thirteen times wider in surface; and, consequently, more luminous than our satellite does to us. Immovable in the black depths of celestial space, she soars with majesty, seeming to reign over human destinies, and shows phases analogous to those exhibited in the moon, but in inverse order. The inhabitants of the invisible hemisphere of the moon, where our globe is unknown, have to take a long voyage in order, from the lunar face turned toward us, to contemplate that magnificent star which we call the earth, and which up there must bear names that express all the admiration that she inspires. — *La Science Illustre.*

The true gentleman is even-tempered, never loud of speech or dress. He possesses the quality of self-control. He is not boastful or vain. He will not prate of himself. He will not insist always upon his rights, but can gracefully waive his privileges. He will respect his neighbor's convictions. He will be scrupulous of his word. He is modest, deferential, careful to avoid offense, but not "a mush of concession."

Mr. Gladstone, in his contribution to the *Youth's Companion*, has forecasted the future of the English-speaking races to the extent that he prophesies that within a century they will practically have the control of the inhabited globe. It is estimated that the present number of English speakers is 105,000,000, which is an advance of 85,000,000 beyond what it was a century ago, and which authorizes the expectation that the number will reach 700,000,000 in 1988, or nearly twice the present population of China. This is Mr. Gladstone's estimate of increase. Other writers think that the English speakers will reach a thousand millions.

BOOK NOTICES.

HISTORIETTES MODERNES. By C. Fontaine, B. L., L. D., Professor of French at Washington, D. C. Vol. I. Boston: D. C. Heath & Co. 1888.

This series of Modern French Texts is published with the view (1) to give to students interesting reading matter, and (2) to familiarize them with modern French literature. The selections are all made from French publications during the year 1887, and are, therefore, among the latest productions. The author has also taken great pains to select such subjects as deal with everyday occurrences of life, thus affording the best possible material for varied topics of conversation.

A COMPLETE GRADED COURSE IN ENGLISH GRAMMAR AND COMPOSITION. By Benjamin Y. Conklin, Principal of Grammar School No. 3, Brooklyn, N. Y. New York, Boston and Chicago: D. Appleton & Co. 1889.

This book is designed to be a practical manual for the assistance of the teacher as well as the pupil. Its theory is the gradual development of the sentence; the method, inductive. The work is sufficiently elementary in the beginning to be put into the hands of pupils in the lowest grammar grades and sufficiently advanced to cover all that is required of the highest grammar classes, thus compassing the entire range of the usual two-book course.

LAUDES DOMINI. A Selection of Spiritual Songs, Ancient and Modern, for the Sunday-School. Edited by Charles Seymour Robinson. New York: The Century Co. Introduction price, 35 cents.

This beautiful new hymn and tune book is edited by the compiler of "Songs for the Sanctuary," "Spiritual Songs," and other books used throughout the country. The book contains 356 hymns and 312 tunes. Many of the hymns and tunes found in it are the property of the company, and are to be found only in its publications. The typography is excellent, the arrangement good, and the style of binding attractive and substantial.

HARPER'S FOURTH READER. In two parts. New York: Harper & Bros. 1888. Pp. 420.

This new reader fully sustains the high character of the series as evidenced in the first three books heretofore noticed in this magazine. Several parts of this number are specially worthy of attention. The genuine literary excellence of the lessons, and their great variety; the healthful moral tone, the purity of sentiment, and the beauty of thought which characterize the selections; the large number of lessons relating to natural science; the attention given to historical subjects, and to other lessons leading to the cultivation of a spirit of patriotism and love for American institutions.

PRIMARY NUMBER CARDS. Prepared by Miss Isabel Shove. Boston: Ginn & Co. By mail, 30 cents.

Each of these sixty cards has four examples, representing the four fundamental rules of Arithmetic. They are put up in a neat pasteboard box, and will be found useful in any primary school.

EASY WORDS FOR LITTLE LEARNERS, AND HOW TO USE THEM. By William J. Shoup, for fifteen years Principal of Fourth Ward School, Dubuque. St. Paul: D. D. Merrill. Pp. 64. Sample copy mailed for 12 cents.

In this delightful little book, the pupil is required to exercise *judgment* in the selection and use of words, from the very first; and by so doing every word becomes to him a sign of an idea *in fact*, as it is *in definition*. The grading is perfect, the illustrations are spirited and suggestive, while the print is the easiest possible on the eyes of the children. About one-half of the book is Language Lessons of the most practical nature possible, but so arranged and illustrated as to make their study a constant delight to the little ones.

MAC COUN'S HISTORICAL GEOGRAPHY OF THE UNITED STATES. Three wall maps. 27 x 42 inches.

Each map contains twelve or fourteen smaller maps grouped and colored for comparison and object teaching. These maps illustrate in the most effective manner: 1. The discovery and settlement. 2. The national growth. 3. The development of the Union. They will admirably supply a very important want which the teachers of history have long felt. Every school where the history of our country is taught should have a set of them. Price per set (3 maps), $10.00; single maps, $4.00.

AN ILLUSTRATED PRIMER. By Sarah Fuller, Principal of the Horace Mann School for the Deaf, Boston. Illustrated by Edith Parker Jordan. Boston: D. C. Heath & Co. 1888.

This primer is intended to help little children who are deaf, in their earliest language lessons. Deaf children, especially the little ones, meet many difficulties unknown to those who hear, and for this reason need a different primer from those in ordinary use among the hearing. The illustrations are simple but numerous, and teachers of the deaf will find this book of great value. Nor is this all. The same principles of pronunciation and of elementary sounds which apply in teaching the deaf to read and to speak apply equally to the hearing. Hence, this book, prepared especially for the deaf will be found of rare excellence in the ordinary schools for children.

THE MAYFLOWER ANNUAL for 1888. Edited by Mrs. Julia H. Boynton. Boston and Chicago: Congregational Sunday School and Publishing Society. Price 75 cents.

In all that special branch of literature which is enriching the life of the child of to-day there is perhaps nothing more attractive than the "Annuals." The Mayflower is one of the last to be added to the list, for it is only a year old. But its little readers, as well as the boys and girls who have never seen it, will be delighted to look over the weekly issues thus tastefully bound.

OUR YOUNG FOLKS AT HOME. III. Boston: D. Lothrop Co. Price, $1.00.

"Our Young Folks at Home" is not a book to be read and then thrown aside and forgotten. The boy or girl who reads it carefully will be much the wiser for it, and not only better able to understand the world about him but, also, will be aided thereby to make his way successfully through it. Many important hints about a business education are here given the boys, and the girls will learn a hundred things about the house which will be of great service to them. The book is for young folks of from twelve to sixteen years of age, is handsomely illustrated, and one that the young people will greatly prize.

Two elegant books for young children, by Margaret Vandegrift. 1.

LITTLE HELPERS. 2. THE DEAD DOLL, and other verses. Little Helpers has twenty-four chapters of bright, beautiful stories for boys and girls. The Dead Doll and other verses contains fifty or sixty poems of remarkable originality of thought and style. The author displays as much originality with her pen as Kate Greenaway does with her pencil. Few, if any books will prove more pleasing than these to the little ones. Boston: D. Lothrop Company.

SIX EXQUISITE WATER COLORS.

One of the daintiest calendars of the season is issued by the Smith & Anthony Stove Co., of Boston, manufacturers of the celebrated Hub Ranges. It is in six sheets, tied together by a ribbon, each sheet being a fac-simile of a delicate water-color drawing, by Miss L. B. Humphrey, of Boston, and made especially for this purpose. The designs consist of six charming sketches of child life, drawn in Miss Humphrey's happiest way, together with delicate landscape scenes, and which are simply exquisite in coloring and treatment.

The set of six sheets can be had by sending 25 cents in stamps or currency to the above address. Our readers will be fortunate if they secure a set of these Art Gems.

SONGS FOR KINDERGARTEN AND PRIMARY SCHOOLS. Words and music by the Misses Menard. Boston: Oliver Ditson & Co.

Here is a beautiful collection of children's songs, sweet, fresh, new, none of them having been published before in any form. They are good for supplementary work, and may be learned by imitation, or by note.

BERTHA GORDON. By Mary Kingston. Boston: Congregational Sunday-School and Publishing Society. Pp. 118. Price 75 cents.

Bertha is a little girl of eight years old or so, with a funny little brother. She learns and teaches many good lessons, listens with her readers to some bright stories for little children, and is generally a bright and helpful playfellow. She will make an excellent summer or winter companion for little girls and their little brothers.

LITTLE JOHNNY TWOBOYS. By Julia Holmes Boynton. Boston: Congregational Sunday-School and Publishing Scoiety. Pp. 57. Price 60 cents.

Every boy has two boys buttoned up inside of his jacket. He has a never-ending conversation with them so long as he is awake. "Good" tells him to do one thing, and "Bad" just the opposite. Sometimes the boy minds one and sometimes the other—except in those stories where the boy is too good to be a real boy. "Johnny Twoboys" tells what a time Johnny had with Good and Bad. It is a capital book for little boys to read, and for girls too, for that matter.

A PRIMER OF MEMORY GEMS. By George Washington Hoss, A. M., LL. D. Third edition. Paper covers. Pp 64.

Choice selections, arranged topically, on all sorts of subjects, such as Knowledge, Liberty, Pity, Sympathy, Music, Truth, etc.

LESSONS ON MANNERS FOR SCHOOL AND HOME USE. By Edith D. Wiggin. Boston: Lee & Shepard. Pp. 84.

A capital little book on manners at school, at home, in society and everywhere. It is given in twelve chapters or letters, and is an attractive little work.

Common School Education.

DEVOTED TO THE ART OF INSTRUCTION.

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BEAUTY IN THE SCHOOLROOM.

BY MARY E. CARDWILL.

I.

SURROUNDINGS.

THE highest purpose of education is to make the person receiving it a better and happier, as well as a more useful individual. It is this purpose which has given peculiar force to the two great educational demands of the day, viz.: for technical, and for special moral training in our public schools. It goes without saying, that men must be both self-supporting and law-abiding, if human misery and sin are to be avoided or lessened. It is moreover in perfect accordance with the general realistic tendencies of the age that the absolutely practical side of a child's nature should seem to be of the utmost importance. But there is serious danger that in this predominance of practicality in education the ideal and the spiritual will be lost sight of.

Beauty, like all other things of supreme worth, is almost limitless in its application and influence. It rules in external nature, in its own realm of æsthetics, and in the higher domain of man's inner nature.

Love for sensuous beauty is an essential characteristic of humanity in an uncorrupted state. We think of the Garden of Eden as a region of beauty, as well as an abode of innocence. Little children are invariably delighted with the most striking forms of external beauty. Flowers, pictures, and music find sincere admirers in tiny boys and girls. It is only when worldliness creeps into their hearts that they become in any sense callous to these natural joys. Innocence and the love of beauty thrive in the same soil — a fact which cannot be taken too strongly into consideration where the training of children is concerned. For the love of beauty, though an inherent possession of man, is, like most precious things, of delicate quality. It needs encouragement and careful nurture if it is to continue a permanent element of character, and an abiding influence for good in life.

Beautiful schoolrooms among pleasant surroundings should be the rule, and not, as they now are, the exception. It is an injustice and a cruelty to children to compel them to spend their days within bare and unsightly walls, and amidst rude and uncouth environments. It is vaguely supposed that education and refinement have some essential connection with each other. But the supposition seems little more than a mockery when we see a lack of everything beautiful in many city, as well as in almost all country, schools. Something very like torture is no doubt often endured, consciously by teachers and unconsciously by scholars, from the dirty walls, hacked benches, and general cheerlessness and hovel-like appearance of many schoolrooms in rural districts. The indifference of parents in this matter is surprising. Children go from homes which are models of neatness and taste, to study and recite their lessons, and to sit for hours in places akin to barracks. No wonder their school work seems simply an allotted task, a business matter purely — at best a task to be got through with as expeditiously as possible. The contrast between a pleasant home and a dreary schoolroom is of itself depressing to a sensitive child. Where there is no pleasant home for contrast the matter is even worse. An opportunity for the exertion of an influence of an impressive, permanent, and high kind upon a child's mind and morals, is lost when the schoolroom is not much better in appearance than a bare and miserable home. From such homes many public school children come. Such children, if not vicious and diseased, are usually cowed and spiritless. Their æsthetic natures have been cramped, and all their pure ambitions crushed. They need the stimulating influences of brightness and beauty constantly about them to arouse their dormant faculties, to take away their too frequent and abnormal stolidity. In education too little account is taken of silent external influences by which the senses are most readily and deeply affected. The trouble here as in other educational shortcomings is that our schools have been too largely ruled by one idea — the acquisition of the greatest possible amount of facts in a given time. A more philosophical view of education considers the development of the whole of man's many-sided nature.

Education, or book knowledge, is of itself refining. But it carries with it this impediment by making the student fastidious in taste, it is apt to create in him a certain dissatisfaction and irritability, if his environment is uncongenial.

External or sensuous beauty on the other hand refines character, through the emotions and the moral sense rather than through the intellect. It is an old, old idea that night and gloom are more conducive to crime than day and sunshine. There can be no doubt that men would be more virtuous if they could always have brightness and beauty infused into their every-day lives. The very fact that splendor makes vicious places so attractive proves that men crave satisfaction for their natural æsthetic tastes. But the usually coarse splendors of vice would not be so alluring if men's finer feelings had not been so often repressed or misdirected in childhood. A child may and should be taught to be discriminating in regard to beautiful objects, love harmony, delicacy, and beauty of form as well as brightness and color. Teaching of this kind is the cultivation of æsthetic tastes so essential to a well-rounded character. Like other culture it is best given during the formative period of life, or in school days. It requires special teaching. But no special teaching can be adequately effective unless it is sustained by the pertinent illustrations or object lessons provided by beautiful surroundings.

A certain pride is now taken in the external appearance of city school-buildings. Many of them are handsome structures and, where they have grounds about them, occasional grass-plots are seen. As a rule, however, school yards are as unpleasantly and unnaturally bare as they can be. Without interfering with play grounds it would be comparatively easy to have one plot of grass and perhaps also borders of flowers in every school yard. The children could be led to take pride and pleasure in keeping the grounds in order, especially if the responsibility was placed directly on their shoulders. This could be done by dividing the school into companies, each company to have the care of the grounds for a month or some other stated period of time. In this as in all other things pertaining to education, it should be ever kept in mind, that children need guidance, rather than absolute rules.

The interior of school-buildings are of still more importance. Comfort and convenience should of course be primarily considered. Yet these are seldom incompatible with beauty. Indeed there is no good reason why every schoolroom should not be attractive. Given cleanliness and respectable furniture, the children, with a little encouragement from their teacher, will often do the rest; put growing plants in the windows, hang pretty prints and other ornaments upon the walls, and provide many things which will add a homelike appearance to the schoolroom. In these pleasant ways moreover, latent tastes and capacities of boys and girls may be developed and utilized, and thus a work more directly educational be done. What is of still more importance, children would acquire a sense of attachment for and possession in the schools they attend. Schoolrooms would seem, in some degree, like second homes instead of mere places of work and confinement. A fruitful source of antagonistic feeling being in this manner removed, the minds of pupils would naturally become more receptive. And by the simple presence of beautiful surroundings, a surer foundation for intellectual acquirements might be laid, and the work of conscientious, earnest teachers, would perhaps be less often in vain.

CLAY: ITS EDUCATIONAL VALUE IN THEORY AND PRACTICE.

BY MAY MACKINTOSH.

PART I. MODELLING OF GEOMETRIC FORMS.

WHEN Frederick Froebel was a young man, and long before he thought of the Kindergarten system, he studied mineralogy, and especially crystallography, in Berlin. He was very much struck by the persistence of a few fundamental forms which met his eyes wherever he turned; and from these he again selected three, from which all of the others might be evolved.

These three were the Sphere (or Ball), the Cube, and the Cylinder; and these he made the bases of all subsequent classifications in Form.

These three forms were also chosen as a clear illustration of the Law of Connection of Contrasts,—the round, easily moving, one-surfaced sphere, being united to the sharp-edged and cornered, immobile cube, by the cylinder, which shares in the characteristics of both.

This law he considered of great importance; so that it could not be too often nor too plainly illustrated; for he said, and philosophers in general now seem willing to admit it, that all things, both in the material and in the spiritual world, are only known as we know their opposites, and *vice versa*, and furthermore that each pair of opposites has somewhere, somehow, its mediation, its connection. Froebel could not conceive of a state of affairs in which ultimate harmony was not possible. In the beautiful language of the poet, he could but

> "trust that good shall fall
> At last — far off — at last to all.
> And every winter change to spring."

And as, to him, the concrete, visible world was a series of object lessons to lead to the conception of the perfect harmony of the spiritual, we can easily see the delight which geometric form, so simple, yet so perfect, would give him.

The most easily manipulated substance from which these typical, fundamental forms can be made is porcelain clay.

But this immediately brings up the question, Why "easily manipulated"? Would not the *seeing* of the perfect form, made once for all by a skilled workman, be better than the *making*, by each child, of forms necessarily more or less imperfect?

Well, no,—and for these reasons. If we look at the most perfect solid form, we cannot see all of it at once; but, as we make a rude imitation of it, we can bring our fingers into contact with every part simultaneously, if our model is small enough. Besides, the time taken in making this imitation serves to impress the exact nature of its form; while its crudeness, corresponding to the undeveloped state of the child, does no harm, since undeveloped natures seize similarities first.

As development proceeds, and the discriminative powers increase, the representation becomes truer; and hence the secondary value of clay modelling is the information given to the teacher of the acuteness of the child's perceptions.

Another great value of clay modelling is that, even in a greater degree than other manual work, it catches and holds the attention. One glance at the most restless youngster, even of kindergarten age (from three to six or seven) while at his clay-lesson, will show the truth of this statement. His utter absorption in his work, and disregard of any observation, will speak volumes for clay as a disciplinarian.

In clay "making," as in all other varieties of making, observation is strongly and pleasurably stimulated; and since the material is simple, and not spoilable, the child may be left to work out his conceptions entirely alone, with correspondingly great educational results. The only exceptions would be, when a child is easily discouraged, or when it is given to trifling, and dissipation of its energies with no result. In either of these cases the wise teacher will be ready with encouragement and stimulus.

So far, we have been considering the theoretical side of the question.

Now, let us look together at the practical results aimed at. These are—a knowledge of all the most common geometric solids, with their half-sections, and (embodied) planes; and this knowledge in an orderly relation, both as regards the forms themselves, and also as to the similar forms in the natural world. "The type is indicated, but never realized."

This is most valuable as training the young mind in the habit of orderly and scientific classification.

The following paper will speak of each of the solids at some length, and also give examples of the embodied type.

METHODS IN GEOGRAPHY.[1]

(*Second Series.*)

BY LARKIN DUNTON, LL. D., AND MISS L. T. MOSES.

II.

THE SNOW AND THE RAIN.

THE following exercise during a snow storm will illustrate the method of treating this subject with the little people during the second year of their observation of nature. The aim is to fix the mental picture of the storm observed, and so make it possible in subsequent storms to compare one with another.

"I need not ask you what our out-door lesson shall be to-day, for I know that you will choose what I have chosen for you to study. Tell me softly, children, what you want to look at to-day."

"The snow," came from half a hundred voices, and as many hands were raised, each child eager to tell something of the beautiful snow, so dear to the children's hearts.

"Listen a moment! See: I have opened the windows that you may hear the sound of the falling snow. Hark! How loudly the clock ticks. Tell me, children, of the noise of the falling snow."

Again the hands flew up; and on being questioned, the children were sure that the snow came down noiselessly — "As still as a mouse," one little girl said.

"Now how many of you remember just which window you always go to? You may all think of yourselves as quiet snowflakes, while you move about. All may go to the windows and look at the flakes."

Very quietly the children go to the window, and very quietly they stand as they look at the falling snow; — all but restless, careless Andrew, who pushes little Mary, and so must come to his seat and think how hard he will try to take care of himself next time.

In a few moments the children are recalled to their seats and are told to shut their eyes and try to see the snow storm without. The teacher quietly and slowly directs them thus: — "Look at the flakes; see how large they are; how thick the air is with flakes. See just how fast and which way they move. Look near the ground and see what the flakes are doing there. Now look on the ground; and now open your eyes."

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[1] Copyright, 1887, by Larkin Dunton, and Miss L. T. Moses.

The children are then questioned about each thing they saw with their eyes shut. They find, in this particular snow storm, that the flakes are larger than usual; though they remember that they have seen much larger ones. They see the air very full of flakes, so full that they cannot see far. The wind is blowing and the flakes seem to be going in every possible direction, some even whirling round and going up into the air again.

The teacher sees all this to be true, and still she is pretty sure that most of the flakes are going one way. "Look!" she says, "I open this east window. What happens? You may all tell me quietly."

"All the snow blows into the room."

"Now see, I shut the east window and open this one on the west. What happens now?"

"The snow does n't come in that side."

"Who can tell now which way the most of the snow goes?"

"You may go again to the windows, and see if you are right in saying that it goes to the west. Look very carefully or you will make a mistake. Come to your seats. Jenny may tell what she thinks."

"It goes a little to the northwest, I am sure; for it slants that way — so," said Jenny, indicating with her hand the direction of the snow flakes. "Then, too, I noticed that when the window was open, the snow came over by my desk and did not go near brother Fred's."

The children decide that Jenny is right; and they are asked what wind goes to the north and west. They all agree that the wind is from the southeast, though they think it is more from the east than the south.

The children now think of what the snow tells them about the fastness of the wind; and they all conclude that it must go faster than the horses do, because it drives the snow so fast.

Further questioning brings out the fact that the children think the snow drives very fast near the ground, and that they think it will make drifts, if it lasts long. They determine to watch during the afternoon at home, for the drifts.

The teacher now takes a slate which she has kept cool outside the west window, and catches some flakes on it. She shows them to the children, directing them to notice the form. The children decide that they are like stars, and they count the rays. Some find a few flakes that are large and not at all star-like, and they think they have noticed such flakes before. Some of the children say that there are no needle-like flakes, such as they have sometimes seen.

"No," said the teacher, "I did not expect to find the needle flakes in this storm."

"How can you tell?" asked Fred Holt.

"I have watched the flakes for many years, Fred, and so I can tell as you can when you are older. Think of the coldness of the day, children."

The children decide that it is not very cold. Indeed, they think it is growing warmer. The teacher tells them that there are no needle-like flakes on this rather warm day for a snow storm, and asks them what they will notice in future about the day when there are no needle flakes. The children decide that they will notice whether the day is rather warm.

Now the teacher sends out for a pan of snow, and asks the children to think what sort of snow-balls this snow will make.

"Oh! very good snow-balls indeed, Miss Foster," the children answer.

"Ah! here comes Willie with the snow. Who would like to see if you are right about the snow-balls?"

The child who is selected makes a good ball, and the children think how they know the snow was good for snow-balls.

Several opinions are given, and the children decide to watch the size and the shape of the flakes and the temperature, to see how many of these things help to make good snow for snow-balls.

"What do we always remember in throwing snow-balls, children?"

"We must not throw a ball towards any person who is passing. We must not throw a ball towards any building. We must not throw hard icy balls at all," repeated the children together.

"We must not throw any balls if a fellow objects," said Frank.

"A good rule, Frank. Shall we add it to our 'must nots,' when we have changed fellow to person?"

The children agree to add Frank's rule to the others about snow-balling.

"There are two more things I want you to do for me. One is to measure the depth of the snow, and the other to find how much rain the snow is equal to. Who can think of a way to do this?"

Various ways are proposed; and at last it is agreed to put out a pail or a dipper and measure the snow in it; then to melt the snow and measure the water. The children all mean to do this when they go home. The teacher wants to know, too; so two are sent out with a pail and a long stick to stand up in the snow near the pail, in case it should be covered up with snow in the morning.

The children remind their teacher that she wants them to do something else.

"Yes, thank you for reminding me. I want you to look out to-night, when you go home, and again as soon as you are awake in the morning, and see the snow over everything, and think of its beauty. I want you to think of anything that is as beautiful as the snow, and be ready to tell me about it."

The children report their measurements of the snow the next day, and they are much surprised to find how little water there is in a pailful of snow.

The children tell of the great beauty of the morning, of the beauty of the snow in the bright sunshine, and of the lovely things the snow makes them think about.

At the direction of the teacher, the children measure the snow on subsequent mornings, till they are convinced that it is gradually disappearing. They are directed to watch very carefully to see where the snow goes.

As the spring advances this watching will convince the children that a part of the snow melts and runs off into streams, and that a part of the water soaks into the ground. They may still be puzzled to know about the disappearance of the snow when the weather was too cold for it to melt. But when they are told that they will come to know this by watching, and that it will help them to know about their studies in the grammar school, it is to be hoped they will be eager to find out for themselves.

The children will see more readily the use of the snow this year than they could last year, and they will tell of the uses to themselves and to all people, to the animals and the plants, and perhaps some may see the use to the earth and its rivers.

During the observation and study, the teacher should, at appropriate times, read some of the many children's poems about the snow, and any pieces about it in their readers should be read by them on days when it snows.

The observation and study of the rain this year will continue the work of the first year on the form, size, movement, and sound of the rain drops; on the clouds and the appearance of the sky before the rain. In addition to this review study, the relation of the wind to rain and fair weather, and the appearances in the clouds which indicate rain or snow will be observed.

At the end of the year the children should know from their own observation that a continued east wind would bring rain, and that clouds coming from the east and growing steadily larger and thicker would also indicate rain.

It is desirable this year that the amount of rain in the various storms be measured by the children. The teacher, on some day when the rain begins in school hours and promises to continue, tells the children that she wants very much to know how much rain will fall if the storm continues all night. The teacher also shows the children a pan or pail which she has prepared with which to measure the rain. She tells the children that the pail must be put well out into the yard so that no water from the roof of the schoolhouse will fall into it.

The children are now asked to think how far up the water will be in the vessel in the morning if it rains hard all night. Most of the children think the pail will be full and running over. A child is chosen to carry the vessel out into the yard, and the other pupils look out of the windows to see if it is put in a good place.

In the morning the water in the vessel is measured, and the children are so much surprised that they can hardly believe the truth in regard to the amount of it. So they resolve to measure other rainstorms. The teacher reminds them that the vessel they use for this must have vertical sides, and must be set away from any house or other building. The teacher, too, says she will set her pail out in every storm this year, and then they can all measure the rain with her and at home too.

The rain on the ground, too, is to be observed this year. It must be seen as it runs along in little streams flowing to the low places. The streams running together to make larger ones, filling up little hollows and so forming miniature ponds, are to be watched, as are the bits of earth or gravel which the streams carry along and deposit in the shallows. Then, too, the stones or other obstacles which the stream meets and around which it flows, thus turning its course, should be seen. In this observation of running waters is laid the foundation for understanding the formation and work of rivers by and by.

Some attention should be paid this year to the duration of rain storms and the relation of the direction and velocity of the wind to the length of the storm.

Mental pictures of pouring, dashing, beating rain, of fast-gathering shower clouds, of clearing rains with clouds and rainbow, should be made at appropriate times. In this way the appreciation and love of beauty and grandeur may be cultivated, as well as the power of accurate representation.

The use of the rain to the thirsty earth, filling up the brooks and rivers, the ponds and lakes, will follow from the observations of the rain on the ground. This use, with those already known, of giving us water for drinking and washing, of giving drink to the drooping flowers and to the birds and other animals, will sufficiently impress the young minds of the children with the great usefulness of the rain.

"How poor are they that have not patience!
What wound did ever heal, but by degrees?" — *Shakespeare.*

PRACTICAL METHODS OF TEACHING SPELLING.[1]

(*Second Series.*)

BY ANNA B. BADLAM.

Rice Training School, Boston, Mass.

II.

The Suffix *er*.

Lesson 6. Name words formed from Action words. — *I* long.

bind	*binder*	*find*	*finder*
blind	*blinder*	*grind*	*grinder*

The Suffixes *er* and *est*.

Lesson 7. Words that tell the kind changed to show a greater degree of quality. — *I* long.

blind	*blinder*	*blindest*
kind	*kinder*	*kindest*
wild	*wilder*	*wildest*

The suffix *ness*.

Lesson 8. Words that tell the kind changed to Name words. — *I* long.

kind	*kindness*
blind	*blindness*
wild	*wildness*

Lesson 9. The long sound of I (ie = ī.) — *I* long. The Initial letter changes.

die
lie
pie
tie

Lesson 10. The addition of a final letter. — *I* long.

1. — Forms of Action words.

die	*dies*	*died*
lie	*lies*	*lied*
tie	*ties*	*tied*

2. — Forms of Name words.

pie	*pies*
tie	*ties*
lie	*lies*

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[1] Copyright, 1888, by ANNA B. BADLAM.

Lesson 11. The long sound of Y (y = ī.)— *Y* long.

dry
cry
try
fry
fly
sly
spy
sky
shy

Lesson 12. Words used as Stems to form new words by means of the various Suffixes.— *Y* long.

dry	*dryness*	*dryly*	*drying*
try	——	——	*trying*
fly	——	——	*flying*
sly	*slyness*	*slyly*	——
spy	——	——	*spying*
shy	*shyness*	*shyly*	*shying*

Lesson 13. The Irregular Forms of Action words.— *Y* and *I* long.

The Present forms and the Past.

try	*tries*	*tried*
cry	*cries*	*cried*
fry	*fries*	*fried*
dry	*dries*	*dried*
spy	*spies*	*spied*

Lesson 14. The long sound of I. (silent gh.) —*I* long.

The Initial letter changes.

sigh *nigh* *high*

Lesson 15. The addition of a final letter to form new words.—*I* long.

sigh	*nigh*
sight	*night*

Lesson 16. Words used as Stems to form new words by means of the various Suffixes.

1.—Forms of Action words.

sigh	*sighs*	*sighed*	*sighing*

2.—Forms of words that tell the quality.

nigh	*nigher*	*nighest*
high	*higher*	*highest*

Lesson 17. The Initial letter changes.—*I* long.

sight
right
bright
fright
light
blight
slight
flight
tight
night
might
fight

Lesson 18. Union of OA. (oa = ō.) — *O* long.

The Initial letter changes.

1			2	
oat	*coat*	*float*	*oar*	*soar*
boat	*goat*	*throat*	*roar*	*boar*

Lesson 19. Name words and their forms. — *O* long.

oat	*coat*	*boat*	*goat*	*throat*	*oar*	*boar*
oats	*coats*	*boats*	*goats*	*throats*	*oars*	*boars*

Lesson 20. Action words and their forms. — *O* long.

1

float	*floats*	*floated*	*floating*	*coat*	*coated*
roar	*roars*	*roared*	*roaring*		
soar	*soars*	*soared*	*soaring*		

New Name words formed from Action words.

2

coat	*coating*	*roar*	*roaring*
float	*floating*	*soar*	*soaring*

Lesson 21. The Final letter changes. — *O* long.

roar	*roars*	*roarer*	*roarers*
road	*roads*	——	——
roam	*roams*	*roamer*	*roamers*

Lesson 22. The Initial letter changes. — *O* long.

road	*roam*	*roan*
load	*foam*	*groan*
toad	*loam*	*moan*

Lesson 23. The final letter changes. — *O* long.

1.—Name words and their forms.

load	*loads*
loaf	† *loaves*
loan	*loans*

2.—Action words and their forms.

load	*loads*	*loaded*	*loading*
loan	*loans*	*loaned*	*loaning*

Lesson 24. The long sound of O. (silent w.) — *O* long.

The Initial letter changes.

sow	*grow*	*low*	*glow*	*stow*	*own*
mow	*crow*	*slow*	*blow*	*show*	——
row	*throw*	*flow*	*tow*	*snow*	——

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† Changes of form and sound.

Lesson 25. Action words and their forms.

own	*owns*	*owned*	*owning*	——
row	*rows*	*rowed*	*rowing*	——
sow	*sows*	*sowed*	*sowing*	*sown*
snow	*snows*	*snowed*	*snowing*	——
mow	*mows*	*mowed*	*mowing*	*mown*
blow	*blows*	——	*blowing*	*blown*
crow	*crows*	*crowed*	*crowing*	——
flow	*flows*	*flowed*	*flowing*	——
grow	*grows*	——	*growing*	*grown*
show	*shows*	*showed*	*showing*	*shown*
throw	*throws*	——	*throwing*	*thrown*
glow	*glows*	*glowed*	*glowing*	——

Lesson 26. Name words formed from Action words. — *O* long.

sow	*sower*	*sowers*
mow	*mower*	*mowers*
row	*rower*	*rowers*
blow	*blower*	*blowers*
grow	*grower*	*growers*
own	*owner*	*owners*

Words that tell the kind formed from Action words.

show	*showy*
snow	*snowy*

Lesson 27. Words used as Stems to form new words by means of the various Suffixes.

1.—Quality words and their forms.

low	*lower*	*lowest*	*slow*	*slower*	*slowest*

2.—Words that tell the manner.

low	*lowly*	*slow*	*slowly*

3.—Name words formed from words that tell the quality.

low	*lowness*	*slow*	*slowness*

"Know'st thou Yesterday, its aim and reason?
Work'st thou well Today for worthy things?
Then calmly wait the morrow's hidden season,
And fear not thou what hap so'er it brings." — *Holmes.*

LESSONS IN ENGLISH.

BY WILLIAM A. MOWRY.

II.

FIRST GRADE GRAMMAR SCHOOL.

A LITTLE book was published some years ago, prepared by that prince of classical teachers, Dr. Samuel H. Taylor, for thirty-five years Principal of Phillips Academy, Andover, which consisted principally of a long list of questions upon the first few lines of Cornelius Nepos, of Cæsar, of Cicero, of Virgil's Æneid, Homer's Iliad, etc. The book is still in large demand by the best classical teachers in America.[1]

This book became at once famous, as indicating a wide range of questioning, and a thoroughness of linguistic study which seemed almost unparalleled. But it is by no means necessary that such thorough study should be confined to the ancient languages. It can be just as well evolved from our best English authors as from the Latin and Greek models. Nor is it necessary that every author be studied in the school with the same detail. The objection is frequently made to this plan that the time will not suffice to pursue the study of every famous English or classical author in this way.

But this is not necessary. When one has studied one or two authors in this way his mind is broadened and his horizon enlarged so that he can study *any author he may choose* after the same fashion without a teacher, and it has opened up to him the treasures of our good English literature, which would otherwise have remained sealed books to him.

Nor is it necessary that all this interesting and valuable study should be relegated to the college preparatory schools, or even to the English High Schools. It is possible to enlist the attention and the sympathies of the boys and girls in the highest classes in the grammar schools in such study to a degree and with results scarcely conceived of by those who have not tried the plan.

To make this plain to grammar school teachers, it is proposed to introduce here the first stanza of Gray's Elegy in a Country Churchyard, and to suggest by a liberal series of questions what kind of study may be drawn from it.

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[1] **Method of Classical Study, by Samuel H. Taylor, LL. D. Published by Thompson, Brown & Co., Boston.**

ELEGY,

WRITTEN IN A COUNTRY CHURCH-YARD.

The curfew tolls the knell of parting day,
The lowing herd winds slowly o'er the lea,
The plowman homeward plods his weary way,
And leaves the world to darkness and to me.

QUESTIONS.

Who wrote this Elegy? When was it written? What can you tell us of the author? Meaning of *Elegy?* Derivation? Where is it said to be written? Did Gray really write it in the church-yard, or did he wish to convey the idea that he is supposed to be there while composing it? Meaning of *church-yard?* What word can you substitute for it? Difference between *church-yard* and *cemetery? Burial-place? Grave-yard?* Give other synonyms of the word? Give some account of English church-yards? What of their location? Appropriateness of *country* church-yard to the poem? Derivation of *country?* What kind of a word is *church-yard?* Simple, derivative, or compound? Would it be proper to write it without the hyphen? Why? When should, and when should not the hyphen be used! Should it be used with *plowman*, in the third line of the first stanza? Why? Are the two component parts of *church-yard* equally important? If not, which is principal, and which subordinate? In the plural of this word which part would receive the *s?* How would it be with *court-martial? Son-in-law? Elegy written in a country church-yard?* Is this a sentence? Would you call it the *heading* or the *title* of the piece? Why? Would it be proper to call it the *caption?* Why not? Derivation of *caption?* Were you to write this how would you indicate to the printer that it should be printed in small capitals? If you wished it printed in italics, how would you indicate it? In that case, what words would begin with capitals?

(The stanza should be committed to memory before reciting further.)

LANGUAGE LESSONS AND EXERCISES.[1]

(*Second Series.*)

II.

BY L. W. RUSSELL.

USE AND ABBREVIATION OF TITLES.

THERE are two things in respect to titles which require special attention: (1) when to use them; (2) if used, when to abbreviate them.

To omit to apply titles properly belonging to persons implies either ignorance or intended slight; but the misuse of them is more frequent, probably, than their omission. The latter arises, usually, from a lack of judgment and good taste; but sometimes from a too ardent desire to compliment or honor the persons to whom the titles are given.

There is a border line in respect to the propriety of using titles, especially social and honorary, where it is not easy to determine whether they should be conferred or not; and where, indeed, persons of refined taste in the matter might differ in practice. The majority of cases, however, should leave no doubt concerning what is proper usage.

The "language" course in schools should give early attention to the use and misuse of titles. From the application of these marks of respect, honor, and distinction, through all the varied relations of life, a long-continued observation is necessary to ensure a judicious use of them. Hence, this is not a subject to be studied for a short time, then dropped, as though ended; but it should run through the whole school course, by occasional exercises and frequent notice.

TITLES OF COURTESY OR RESPECT.

It should be noted that these titles have no reference to high attainments, or to official rank, and are, therefore, of general application; but they may be superseded by higher titles, which do denote distinction in learning or office.

Mister.—*Mr.*—Apply this title to ***men*** of all classes; it belongs to high and low, to rich and poor, to the educated and the ignorant. Its

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[1] Copyright, 1887, by Eastern Educational Bureau.

application is demanded by common politeness. To omit to apply it, especially by youth, in speaking to, or of, a man, even one who does what is considered as menial work, is, at best, an inexcusable rudeness.

EXERCISES.

Each pupil tell, orally, some thing which some man has done or said, using the title *Mr.*; as, *Mr.* Forest brought us a load of wood yesterday.

Write a request to the janitor of your school building for some favor.

Write a request to your milkman to leave, today, an extra quart of milk.

Write an order to your grocer for a few articles.

Practise addressing letters to men whose only title that you know of is *Mr.*

Tell, in writing, what you think of a lad or a miss who speaks of a man as "old Abel," "old Smith," etc.

Tell what common politeness and good breeding require in speaking of, or addressing, any man, whatever may be his station in life.

Direction.—Do not hesitate to address a man as *Mr.*———, in a letter, or elsewhere, if you know no higher title belonging to him.

Men of great eminence may drop all titles but plain *Mr.* Their works confer honor to this title beyond any legal or official title. Thus: Mr. Webster, Mr. Lincoln; Mr. Gladstone, etc. Or even this title may disappear: as Edward Everett, Patrick Henry, John Bright. But, notice, that the abruptness of speaking of men not preëminently noted without a title, is hardly less than an affront.

In good taste.—When men of different ranks and occupations meet in a *social* way, the general use of *Mr.*, in introductions among the assembly, is adopted by persons of refined taste. This is done from a kindly regard for those who may be without high titles, yet may be worthy of social equality with others, of rank. *Mr.* may be used with propriety before some other titles, when a person is addressed,—thus: Mr. President; Mr. Superintendent; Mr. Speaker, etc.

"President," "Superintendent," etc., in such connection, should not be abbreviated in writing.

This title, *Mr.*, is also properly used before the surname after Rev.; as, Rev. Mr. Smith; but not with other titles.

Review by naming all the cases in which the title *Mr.* should be used, and illustrate by written examples.

N. B. In most legal documents and business papers no titles whatever are used, unless persons are directly addressed. Study the common business forms, as notes-of-hand, drafts, receipts, etc.

Messieurs.—*Messrs.*—French plural. In addressing, or speaking of, two or more gentlemen associated in business or other relations, this title may be used.

Use this title in letters addressed to business firms; as,

MESSRS. TIFFANY & CO.,
New York.
MESSRS. HAMLIN & SHAW,
Chicago.

Write sentences using this title in speaking of two or more of the same family name; as, The Messrs. Henry and William Chase will return in January, 1889.

Write sentences referring to several gentlemen of different names associated for some purpose, as on "boards," "committees," etc.; as, Messrs. Stevens, Chase, and Arnold, were appointed upon the Board of Public Works.

Mistress.—*Mrs.*—Pronounced *missis.* *Miss.*—Never abbreviated. The only use of *Mrs.* which needs attention in our schools, is its application to women who are, or have been, married. Its use in a bad sense, as a full word, should not be spoken of. Compounded with a few other words, as "school-mistress," it is becoming obsolete or is unimportant. But, strange to say, "*Mrs.*" and "*Miss*" are often interchanged in application to women, even by intelligent adult persons. This matter should be made clear in fact to the pupils, and, by sufficient exercises, correct in practice.

Impress the fact that age has nothing to do with the distinction to be made.

Write five sentences properly using *Mrs.*; five, properly using *Miss.*

Tell which of the titles, "Mrs." or "Miss," requires a period; also, which one cannot be used in the plural.

Master.—Not abbreviated. Explain that "Master" is applied to a male who is younger than a *man;* that the age at which he ceases to be a "Master" and properly takes the title "Mr." is not definitely settled; that, generally speaking, through his "grammar" and "high," school courses, he should retain "Master"; that the "voting" age, twenty-one, demands the title "Mr."; and that an early manly development in business, or other characteristics, sometimes ensures the propriety of applying this title at from eighteen to twenty years of age.

Master is used, in some places, as in Boston, to designate the male principal of a school; as Master of the Dwight School. It is also used to designate the head man in various occupations; as, the master mechanic of the shop.

Write a brief account of a school literary and musical exercise, speaking of parts taken by several individuals, "masters" and "misses."

PRACTICAL BOTANY.[1]

BY PROF. W. WHITMAN BAILEY, A. M., BROWN UNIVERSITY.

II.

IN the first article it was shown how pupils are led to examine a bean-pod and its contents. These objects may serve as morphological units or types with which to compare other pods and seeds. An interesting series may be examined, beginning with the seed of a morning-glory or a maple, and proceeding to the extreme of storage material, as in the horsechestnut. We must also compare with these a grain of corn, or of oats or millet, illustrating the Monocotyledonous type.

It is important to have the pupils grow seeds for themselves. This may be done in flower pots, or wet cotton-batting, in clean sand, or even on blotting paper. A wet sponge filled with flax or oat seed becomes a beautiful object. Monocotyledonous seeds, being often difficult of dissection, can best be made to exhibit by their growth their peculiar structure.

The evolution of the germinating plant is always interesting. Plant the seeds of different kinds so that they may exhibit a chronological order, the various pots being separated by an interval of a day or two. Then, when the plants grow, there will be a series illustrating all conditions from the embryo up to a plant of several modes of growth. This is worth any amount of reading. The likenesses and differences thus observed by the pupil himself may next be tabulated by the teacher in a convenient form to remember and use, thus:

Tables for Determining the Three Great Classes of Flowering Plants.

TABLE I.

DICOTYLEDONS.

Plants with two seed-leaves to the Embryo.

These are known by—

1st. Their Exogenous or Outside-growing Stems, with (commonly) separable bark.

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[1] Copyright, 1888, by Eastern Educational Bureau.

2d. Their (usually) netted-veined leaves, often with broken outline, and with *stipules*, leaves more commonly jointed to the stem which produces them.

3d. The numerical plan of the flower exhibits the number 5 most commonly, 4 frequently; sometimes 3. The multiples of these numbers apply as well.

TABLE II.

MONOCOTYLEDONS.

Plants with one seed-leaf to the Embryo.

These are known

1st. By their Endogenous or inside-growing stems, with inseparable bark.

2d. By their (usually) parallel-veined leaves, with entire margins, and sheathing the stem. If compound, the leaflets have entire edges.

3d. The numerical plan of the flower shows the number 3 more commonly, sometimes 4, but never 5. The multiples apply as well.

The teacher must now proceed to explain terms, if these have not already been made obvious, thus: the terms Exogenous and Endogenous should be made clear by description, by drawings, and by actual specimens.

As regards illustration, I often, after the pupil has acquired the facts from observation, present for him a diagramatic view of the relations of the classes. This helps to fix things in the memory. It is even better to have him make the drawings himself. This reliance upon self should be constantly insisted upon.

The pupil's attention should be called to the caution with which the tables are constructed, in order to guard against frequent exceptions. For example, while Dicotyledons *usually* have leaves jointed to the stem, the Parsley Family (Umbelliferæ) have the leaves sheathing. In applying the tables, then, to the practical examination of a plant, always consider the sum of several characteristics. Do not rely upon one only.

Remember right here, that Nature does not draw fast or sharp lines of demarcation. There is often an imperceptible gradation between classes, genera, and species. Even the great kingdoms grow into each other, so that, in regard to the lower forms of animals and plants naturalists are often in doubt. Do not expect that every plant you meet is to fit accurately any description or figure. Our written records or illustrations are at best tentative efforts to imitate nature, or to guess at her meaning. She declines to be imprisoned or bound down by our rigid rules, and will often surprise the beginner by wild vagaries. A very common sport or deviation from order is in the numerical plan of the flower. Thus, in the little "bluets" or *Horestonia cærulea*, the normal number of petals and stamens is four. It is not uncommon, however, to see instead, the numbers three and five. The plant appears to lose its reckoning. Many a poor boy will not in the least wonder at this want of accuracy.

It is not often that the teacher has a chance to exhibit seeds of pine, spruce, juniper, or the like, but he must not fail nevertheless to refer to them as examples of a third class of Flowering Plants, the Polycotyledons, showing more than two seed-leaves. After a week's practice it is found that the salient characteristics of the classes are familiar to most of the class. They begin also to know the "faces" or features of these; certain intangible characteristics which language fails to embody.

THE HISTORY OF OUR COUNTRY: HOW TO TEACH IT.[1]

(*Second Series.*)

BY WILLIAM A. MOWRY.

I.

REVIEW OF SETTLEMENTS.

"WE have now passed through the Revolutionary period and have formed a new Nation; 'The Young Republic of the West.' Next Friday, we will spend our recitation hour in considering how it happened that it was these English colonies which came to establish a nation, rather than the colonies of some other one of the great European powers. You will need to consult all the various histories and books of reference upon our colonial history, within your reach. You will consider which of the European powers were prominent in establishing colonies, and try to find, if possible, how it happened that France was so completely swept off from this continent."

Friday came, and the interest of the class was such as to promise an enthusiastic hour. The teacher had caused to be drawn upon the blackboard an outline map of North America.

The exercise was begun by inquiring what were the three most prominent nations of Europe in exploring and settling North America.

John. "I should think the three most prominent were Spain, France, and England."

"What section was settled by Spain?"

In answering this question several members of the class brought out the facts, one by one, regarding the settlement of Florida, Mexico, and Central America. A graphic account was given of the settlement of

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[1] Copyright, 1888, by William A. Mowry.

St. Augustine, and of other Spanish explorations and settlements, including clear statements of the lives of Menendez, De Soto, and others.

"Give an account of early explorations and settlements by the French."

Different members of the class described the expeditions of Ribaut, Laudonnière, Champlain, Marquette, La Salle, and others. It was shown that before the beginning of "The Old French War" France controlled all Canada, and the entire valley of the Mississippi, from the source to the mouth of that river, and from the Alleghanies to the Rocky Mountains.

"What had the English done?"

Different members of the class gave briefly the story of the English settlements from Jamestown to Georgia, and showed how, beginning with the two grants to the London and Plymouth companies, the English had settled the coast from the Penobscot to the Saint Mary's. At this point, special attention was called to the outline map upon the blackboard which had been gradually growing as one settlement after another had been put upon it. With a yellow crayon the teacher quickly drew a boundary line along the northern side of Florida to the Mississippi River and between the present states of Texas and Louisiana, continuing that line westward to the Pacific Ocean along the 42d parallel. This marked the northern boundary of the possessions of Spain. Then as quickly with a red crayon a line was drawn along the course of the Rocky Mountains and down the Arkansas, Red, and Sabine Rivers to the Gulf and up the eastern boundary of Alabama and along the line of the Alleghanies to the great lakes, and eastward on the present southern boundary of the Dominion of Canada to the ocean. This red line marked and defined plainly the French possessions, which included the great river basins of North America, the Mississippi and the St. Lawrence. A blue line alongside of the red one around Maine, upon the Alleghanies and north of Florida bounded the meager territory of the English possessions. This map was now studied carefully and it showed at a glance the limited foothold of Great Britain, the great and important possessions of France, and the broad field which Spain had staked out for cultivation by her people.

The class were asked to observe how narrow was the English territory in comparison, and all the pupils were strongly impressed with the contrast. The proud position of France was dwelt upon, and the pupils, as never before, appreciated the great natural advantages to be derived from the fact that the Mississippi runs through lines of latitude and not of longitude.

The class discussed with much interest the varied productions of the upper and middle and lower Mississippi, and carried on an imaginary trade by freighting flat-boats upon the Ohio and Upper Mississippi with grain and hay and potatoes, which being sold in the southern markets furnished the money with which to buy cotton and sugar and tropical fruits to carry back to the more northern settlements.

Finally a list of interesting statistics was read from late compilations, showing the present trade of Chicago, St. Paul, Minneapolis, St. Louis, and New Orleans, to illustrate how tremendous has been the growth and progress of our country in a century and a half; for the map on the blackboard illustrated the position of affairs in North America about 1739, just a hundred and fifty years ago.

The following diagrams to illustrate the explorations and settlements by the three nations were then placed upon the blackboard by the side of the historical map which had grown up from the lesson: —

DIAGRAM I.

EXPLORATIONS AND SETTLEMENTS.

Spanish.	1.	Balboa.	
	2.	De Soto.	
	3.	Menendez.	Florida.
French.	1.	Cartier.	
	2.	Ribaut.	South Carolina.
	3.	Laudonnière.	Florida.
	4	Champlain.	Quebec.
	5.	Marquette.	Wisconsin.
	6.	La Salle.	
English.	1.	Drake.	
	2.	Gilbert.	
	3.	Raleigh.	Roanoke Island.
	4.	Smith.	Jamestown.
	5.	Gosnold.	

DIAGRAM II.

SETTLEMENTS AND COLONIES.

1562.	Ribaut.	Port Royal.	French.
1564.	Laudonnière.	St. John's River.	French.
1565.	Menendez.	St. Augustine.	Spanish.
1607.	Smith.	Jamestown.	English.
1608.	Champlain.	Quebec.	French.
1613.		New York.	Dutch.
1620.		Plymouth.	English.
1623.		New Hampshire.	English.
1630.		Boston.	English.
1634.	Lord Baltimore.	Maryland.	English.
1636.	Roger Williams.	Rhode Island.	English.
1638.		New Haven.	English.
1638.		Delaware.	Swedes.
1670.		South Carolina.	English.
1683.	William Penn.	Pennsylvania.	English.
1733.	Oglethorpe.	Georgia.	English.

1756–'63. Old French War.

It was not expected that all these dates should be memorized, but the time and order of the settlements were thus placed before the eye to give a clear idea of the settlement of our country. At the conclusion of the lesson it was voted unanimously that this was the best lesson the class had ever had in American History, and that to get such a clear idea of the planting of these various colonies in America was worth all the hard study they had given to the subject.

For the next review lesson, to be had two weeks from that day, the subject assigned was the "Contest of the Kings; or The Supreme Moment in the History of North America." It was well-understood that this meant the "Old French War." This next lesson will complete the answer which is not yet clear, to the question asked when this lesson was assigned, "How it happened that it was these English colonies which came to establish a nation rather than the colonies of some other one of the great European powers."

EXTRACTS FROM THE "LONG AGO."

II.

MY "FIRST SCHOOL."

DATE, 1847. State, Rhode Island. "Who was the gentleman that called you out during the Algebra recitation?" said the schoolmaster to me at recess.

"That was Mr. W., the school trustee from M., three miles up the river."

"What did he want? Did he ask you to keep their school?"

"Yes, he did."

"Did you engage to do it?"

"I did, sir."

"What did you do that for? Did not you know it was the hardest school in the town?"

"Yes, I knew it, but did not you advise me to teach this winter?"

"I did, but I did not expect you to take the hardest school you could find. Why did you take that school?"

"Because I could not get any other."

"But you did not tell me you wanted a school. I would have helped you find one."

"When I was absent those two days I looked all over four towns and the school in M. was the only one that was not engaged. It is getting too late."

"Well, I am sorry you have taken that one, but I guess you 'll succeed. You *must.*"

"Yes, sir, I intend to."

And so it happened that this conversation,—anything but comforting to the prospective pedagogue,—was the means of making him take the utmost pains to succeed in the difficult undertaking that he had ventured upon.

On that memorable "Monday after Thanksgiving," he entered the schoolhouse and began his career in teaching, which was thence continued with but little interruption for nearly forty years.

But before being permitted to "keep school" the candidate must, forsooth, "pass an examination." This must be before the School Committee of the town. This Committee, in this case, consisted of three members, a minister, a doctor, and a woolen manufacturer. The last named was not exactly illiterate, but he surely could not conduct such an examination. The doctor was not present, hence all the questions were asked by the clergyman. Reading, spelling, arithmetic, and grammar were successfully passed. But a discussion took place in geography concerning the proper boundary of Massachusetts. After a long series of questions, answers, and disputings, it appeared that the reverend gentleman thought that the Old Bay State included the southern half of Vermont and hence was bounded on the east by New Hampshire.

After trying in vain to find an atlas, a geography, a map, a sheet of paper, or a piece of chalk, with which to draw a map, (we were in the examiner's own house) the candidate gave it up, and probably to his dying day the committee man supposed that Massachusetts extended northward beyond Bellows Falls and Rutland.

The school began. It was kept in a room eleven feet by twenty-two, in a dwelling-house, over a boat shop, where a deaf man made boats. The boat builder was probably less annoyed by the noise of the school than the school was by his hammering. There were more than fifty different scholars, ranging in age from four to twenty, and the studies included all intervening stations between the Alphabet and Algebra.

The school was, however, pronounced a success, and doubtless the teacher labored as faithfully as he ever did in subsequent years, when he was master of the city high school.

No special disturbances occurred during that winter, although current rumor told strange stories of what had happened there the winter previous.

It was said that on one rainy day, at the recess, while the "boys were out," the master was busy "doing a sum" for one of the large girls. When it was done, he thumped upon the window for the boys to come in. They came, and took their seats very quietly, so much so, indeed, that the master looked around to see what had happened. Directly in front of the stove he saw placed upon the floor a long "stone drag" of plank. This had been quietly brought in and placed there while the master had been busy with his "cyphering."

"Who brought that in?" demanded the master.

"Sir?" said one of the largest boys, looking up very soberly from his slate. "Sir?"

"Who brought that plank drag in here?"

"I did, sir."

"What did you do that for?" thundered the master.

"To keep it dry," was the laconic reply.

YE ANCIENT PEDAGOGUE.

THE STUDY OF SYNONYMS.

BY RUTH E. MOWRY.

ALLOW AND ADMIT.

1. Both are derived from the Latin.
2. Both mean to concede, when used as synonyms. They can be compared only when used in regard to matters of argument or speculation.
3. The term ALLOW is used with reference to what in fairness ought to be granted.

   The word ADMIT is used for what cannot be denied.

   ALLOW denotes what is due to him who argues a claim; ADMIT what is due to the case.

   ALLOW is negative; ADMIT is positive.
4. He would not admit that such a state of affairs was possible, but for the sake of the argument he agreed to ALLOW the supposition.

ANIMAL, BRUTE, AND BEAST.

1. All are derived from the Latin.
2. BRUTE AND BEAST both mean ANIMAL. ANIMAL includes every creature endowed with higher life than belongs to the vegetable kingdom, and therefore includes man.
3. The term ANIMAL is applicable to insects, while neither BRUTE nor BEAST is so.

   We think of BRUTES as being destitute of the higher reason or of moral feeling, and of BEASTS as mere animals governed by animal appetites.

When these terms are applied to the character and disposition of men, ANIMAL denotes one who follows the instincts of his lower nature to the neglect of the higher moral restraints and intellectual sympathies; BRUTE, one whose nature seems deadened to finer feeling; BEAST, one who grovels in sensuality.

4. "He is only an ANIMAL, only sensible in the duller parts." A drunkard first makes himself a BEAST, and then treats his family like a BRUTE.

EXCITE AND INCITE.

1. Both are derived from the Latin.
2. Both mean to rouse, to move.
3. EXCITE is to arouse to an active state faculties which were formerly dormant, or to call into greater activity what before existed in a calmer state.

   INCITE is to EXCITE to a specific end.
4. He first EXCITED their anger by his tales of great cruelty and then INCITED them to revenge by mentioning the name of the man who had performed the dreadful deeds.

EDITOR COMMON SCHOOL EDUCATION: —

I am highly pleased with the November number of COMMON SCHOOL EDUCATION, and especially with the article on "Tense," by Prof. Edward A. Allen, Missouri State University.

Allow me a friendly criticism of this excellent and suggestive article. In it he states, "In the Present Perfect the time of the action may reach far back into the past, but the results of the act are supposed to be present, and hence it is always used with reference to the present." He illustrates: "'A tree has fallen across the road,' can be said only when the tree in whole or in part remains; it matters not whether the tree fell today or twenty years ago."

Let us see: "The tree has fallen twenty years ago," is certainly bad grammar. While there are three absolute divisions of time, present, past, and future, the present in grammar is not confined to the present *moment*, but is often extended; as the present hour, day, week, month, year, century, or era. The use of the Present Perfect tense is confined to that portion of time considered in the sentence as present time; thus, the tree has fallen this hour, day, month, year, century, not has fallen twenty years *ago*. The Professor might also have made fifteen instead of fourteen tenses by using the emphatic form, "I will write." N. E. G.

Boone, *Iowa*, Nov. 24, 1888.

EDITORIAL.

HAVE you a daily program?

CAN your children point to the East?

CAN your children study without moving the lips?

CAN your children repeat the names of the months in order?

HOW many of the boys in your present class smoke cigarettes?

WHAT are you doing to cultivate the power of observation on the part of the children?

FIRMNESS wins more battles in daily contests with children than any other quality except love.

A TEACHER requires a large amount of good refreshing sleep to prepare the mind and body for the best work.

WHEN something goes wrong in the schoolroom a song or a poem is frequently more effective than a scolding.

IN questioning the class, always ask the question before you call the name of the pupil so all may be led to think the answer.

A TEACHER who will stay away from her position in the school to attend a family party or have a dressmaker, needs to cultivate the proper idea of DUTY.

ART precedes writing; i. e. a child can express his idea of a bird with his fingers, or with the pencil before he can write the arbitrary sign-word — *bird.*

THE power and economy of pictures and blackboard sketches for giving correct ideas and fostering them in the minds of children, have not yet been fully appreciated.

TWO thousand teachers last summer spent two or three weeks in the ten Summer Schools located in the Eastern States. Has any one heard them regret the time and money thus given to their own education?

THE wisest teachers do not appear to see everything that is disorderly; they do not expect perfection from each child; they remember that parents have rights; and better than all they believe that teachers may err.

FOR the child to know the capital of Switzerland, or how to spell *apothecary* may or may not be of value to him in after life, but all real power, all self-control which the teacher causes him to develop will be of constant service in meeting the world.

CAN your pupils talk? Can they tell all about the subject? After they have read a story, can they tell it to you with the books closed and do it with reasonable accuracy and promptitude? If not, you have an important task before you to accomplish.

IF our schoolhouses were properly equipped with suitable appliances and simple but necessary apparatus, the saving in time and money in educating the children of a large city, would reach hundreds of thousands of dollars. With such helps a better education could be given in four or five years than is now given in six years. A year's saving in the salaries of teachers alone is an item worth considering.

"SPEAK the TRUTH," "Aim High," and such good old-fashioned mottoes should be written on the blackboard, one at a time and allowed to remain to make a lasting impression upon the pupils. The writer can see one of those truths in large gilt letters as it hung thirty years ago, on the walls of a poor, paintless country school. Teacher, schoolhouse, and pupils have gone, but those words will never fade nor lose their influence.

IT is an excellent plan in graded schools for the teacher to divide the class into two divisions according to previous work, and although both divisions recite together in each study, yet the teacher holds the first division in greater honor; tells the class she expects to promote those pupils if they remain therein, and recommends those in the second division to work so faithfully during the coming period of probation as to secure a sure promotion from the second to the first division. This will afford a stimulus to good behavior and hard study. Wherever tried it has worked much better than the deplorable habit of keeping after school.

TEACHERS need to cultivate the imagination. They should be able to imagine how they would feel and act if they were parents with nervous children who "never do wrong." To imagine how they would talk and do if they were superintendents, and responsible to the committee and the town; to imagine, if they were on the committee, how they could vote honestly and for the good of education in the abstract. Above all every teacher must be able to imagine how a little child thinks, feels, and is likely to act under given circumstances. No gift of the mind is more serviceable to those teaching than the poetic temperament of the imagination.

THE teaching of the Kindergarten is based upon right principles of education, but no more so than right teaching in all the higher grades. In Kindergarten work the teacher advances carefully from a point well known to one which is new; so should the teacher in arithmetic and algebra. The Kindergarten teacher encourages the little child to see and tell the differences and similarities; so should the teacher in reading, geography, and literature. The Kindergartener leads the child to think for himself, to reason in a childlike way; so should the primary teacher in numbers, the grammar, teacher in percentage, and the high school teacher in geometry, instead of committing to memory to the extent still so common.

ONE very bad habit in the schoolroom and one quite common, is that of the teacher's repeating what the pupil has said in his recitation. The dialogue generally runs about like this: —

Teacher. When was Perry's Victory? *Pupil.* Sept. 10, 1813. *Teacher.* "Sept. 10, 1813." Yes. How old was Perry at that time? *Pupil.* He was only 27. *Teacher.* Yes, "only 27." Where was this great victory won? *Pupil.* On Lake Erie. *Teacher.* That is right, "on Lake Erie." What was Perry's motto for the fight? *Pupil.* The words of the dying Lawrence, "Don't give up the ship." *Teacher.* Yes, "Don't give up the ship."

The effect of this habit of unconscious repetition is to make the pupil speak low and carelessly, to pay little attention when another pupil is speaking, besides consuming a vast amount of precious time.

HAPPY HOURS.

WASHINGTON AND LINCOLN.

A BIRTHDAY EXERCISE.

BY WALTER H. MOWRY.

New York, Feb. 1, 1889.

My Dear Sarah: —

I was so busy last month getting started in a new term that I did not have any time to write you, and in fact I have hardly thought of my promise to tell you about our new year's celebration. You will probably prefer to know our plan for the exercise commemorating the birthdays of both Washington and Lincoln.

We are to have the exercises in the hall, and the whole school and the friends of the scholars are to be present. The program is to be about two hours long as it is now planned, and I fear we cannot get it down to an hour and thirty minutes; which is as long as it really ought to be. As Lincoln's birthday was February 12, and that of Washington comes on Friday this year, we shall have our exercise on Friday afternoon of the 22d.

The first number on our program is to be the singing of "America" by the whole school, which will be followed by the recitation by one of the larger boys of

THE BRIGHTEST NAME ON HISTORY'S PAGE.

BY ELIZA COOK.

"Land of the West! though passing brief the record of thine age,
Thou hast a name that darkens all on history's wide page!
Let all the blasts of fame ring out, — thine shall be loudest far;
Let others boast their satellites, — thou hast the planet star.
Thou hast a name whose characters of light shall ne'er depart;
'T is stamped upon the dullest brain, and warms the coldest heart;
A war-cry fit for any land where freedom 's to be won;
Land of the West! it stands alone, — it is thy Washington.

"He fought, but not with love of strife; he struck but to defend;
And ere he turned a people's foe he sought to be a friend;
He strove to keep his country's right by reason's gentle word,
And sighed when fell injustice threw the challenge sword to sword.
He stood, the firm, the wise, the patriot, and the sage;
He showed no deep avenging hate, no burst of despot rage;
He stood for Liberty and Truth, and daringly led on
Till shouts of victory gave forth the name of Washington.

"No car of triumph bore him through a city filled with grief;
No groaning captives at the wheels proclaimed him victor-chief;
He broke the gyves of slavery with strong and high disdain,
But cast no sceptre from the links when he had rent the chain.
He saved his land, but did not lay his soldier trappings down
To change them for a regal vest and don a kingly crown.
Fame was too earnest in her joy, too proud of such a son,
To let a robe and title mask her noble Washington."

The next selection is to be particularly in reference to the birthday of Washington. It is in prose and was written by Rufus Choate. It is entitled

THE BIRTHDAY OF WASHINGTON.

"The birthday of the 'Father of his Country'! May it ever be freshly remembered by American hearts! May it ever reawaken in them a filial veneration for his memory; ever rekindle the fires of patriotic regard to the country which he loved so well; to which he gave his youthful vigor and his youthful energy during the perilous period of the early Indian warfare; to which he devoted his life, in the maturity of his powers, in the field; to which again he offered the counsels of his wisdom and his experience as president of the convention that framed our Constitution; which he guided and directed while in the chair of state, and for which the last prayer of his earthly supplication was offered up when it came the moment for him so well, so grandly, and so calmly, to die! He was the first man of the time in which he grew. His memory is first and most sacred in our love and ever hereafter, till the last drop of blood shall freeze in the last American heart, his name shall be a spell of power and might.

"It was the daily beauty and towering and matchless glory of his life which enabled him to create his country, and at the same time, secure an undying love and regard from the whole American people. 'The first in the hearts of his countrymen!' Yes, first! He has our first and most fervent love. Yes! Others of our great men have been appreciated, — many admired by all. But him we love. Him we all love. Yes! When the storm of battle blows darkest and rages highest, the memory of Washington shall nerve every American arm and cheer every American heart. It shall relume that Promethean fire, that sublime flame of patriotism, that devoted love of country, which his words have commended, which his example has consecrated."

Following this splendid piece of eulogy will come one or two selections from the words of Washington himself. The first is from his address to his soldiers just before the battle of Long Island. The selection which has been arranged to follow this is taken from

WASHINGTON'S FAREWELL ADDRESS.

"FRIENDS AND FELLOW-CITIZENS: —

"The period for a new election of a citizen to administer the executive government of the United States being not far distant, and the time actually arrived when your thoughts must be employed in designating the person who is to be clothed with that important trust, it appears to me proper, especially as it may conduce to a more distinct expression of the public voice, that I should now apprise you of the resolution I have formed, to decline being considered among the number of those out of whom a choice is to be made.

"I rejoice that the state of your concerns, external as well as internal, no longer renders the pursuit of inclination incompatible with the sentiment of duty or propriety; and am persuaded whatever partiality may be retained for my services, that in the present circumstances of our country you will not disapprove my determination to retire. Satisfied that if any circumstances have given peculiar value to my services they were temporary, I have the consolation to believe that while choice and prudence invite me to quit the political scene, patriotism does not forbid it.

"Though in reviewing the incidents of my administration I am unconscious of intentional error, I am nevertheless too sensible of my defects not to think it probable that I may have committed many errors. Whatever they may be, I fervently beseech the Almighty to avert or mitigate the evils to which they may tend. I shall also carry with me the hope that my country will never cease to view them with indulgence; and after forty-five years of my life dedicated to its service, with an upright zeal, that the faults of incompetent abilities will be consigned to oblivion, as myself must soon be to the mansions of rest."

The four pieces which I have written you about are all to be spoken by the larger scholars, and they will do pretty well. The last of the program on Washington is to be given by one of my little girls, and I do not feel exactly sure of her, for though she is one of my brightest children and will have the piece well learned, I have never had her upon the platform before visitors, and I fear she may be embarrassed. She is to give us a few verses from

THE BIRTHDAY OF WASHINGTON EVER HONORED.

BY GEORGE HOWLAND.

"Welcome, thou festal morn!
Never be passed in scorn
Thy rising sun,
Thou day forever bright
With Freedom's holy light
That gave the world the sight
Of Washington.

"Name at which tyrants pale,
And their proud legions quail,
Their boasting done,
While Freedom lifts her head,
No longer filled with dread,
Her sons to victory led
By Washington.

"Now the true patriot see,
The foremost of the free,
The victory won,
Now we attest the worth
Of one true man to earth,
And celebrate the birth
Of Washington."

At the close of this poem a chorus of twenty boys are to sing "The Star Spangled Banner," and then after a very short address by the Principal of the school, in which he links the lives of Washington and Lincoln together, and shows that in each being at the head of an army in a great war they were alike, in successfully bringing those wars to a close they were alike, in giving liberty to the country they were alike, and in being true God-fearing men they were alike.

The last part of the exercise is to be given more largely by younger children than those whom we shall hear in the first part. The first number in this will be the reading of an

EXTRACT FROM A EULOGY ON ABRAHAM LINCOLN.

BY P. D. GURLEY.

"Probably no man since the days of Washington was ever so deeply and firmly enshrined in the hearts of the American people. Nor was it a mistaken confidence and love. He deserved it well, and deserved it all. The memory of his virtues, of his wise and patriotic counsels and labors, of his calm and steady faith in God, will be a power for good in the country quite down to the end of time.

"Our beloved President was slain; but our beloved country was saved; and so tears of gratitude mingle with those of sorrow. When the sun has risen full-orbed and glorious, and a happy, reunited people are rejoicing in its light, it will shine upon his grave; but that grave will be a precious and consecrated spot. The friends of liberty and of the Union will repair to it in years to come, to pronounce the memory of its occupant blessed; and, gathering from his very ashes, and from the rehearsal of his deeds and virtues, fresh incentives to patriotism, they will there renew their vows of fidelity to their country and their God."

To follow this beautiful tribute to the man who did more for this country than any other man, and I was about to say, more than any man for any country, will come the recital of some words, almost prophetic, which Lincoln uttered after his nomination at Chicago. It will be very nearly like this: —

During the canvas before the election of Lincoln to the Presidency he was one day talking with Mr. Newton Bateman, State Superintendent of Public Instruction, about the action taken by several ministers in stating that they would not vote for Lincoln. Mr. Lincoln said: "I know there is a God, and that He hates injustice and slavery. I see the storm coming, and I know that His hand is in it. If He has a place and a work for me, and I think He has, I believe I am ready. I am nothing, but Truth is everything. I know that I am right, because liberty is right, for Christ teaches it, and Christ is God."

Mr. ———, our Principal, who is to have the charge of the whole exercise, will here say a few words about Lincoln's kindness of heart, and make a point for the children on being kind to their playmates and to dumb animals. Following these brief remarks will be a recitation of five stanzas of Lincoln's favorite hymn, entitled

O, WHY SHOULD THE SPIRIT OF MORTAL BE PROUD?

"O, why should the spirit of mortal be proud?
Like a swift-fleeing meteor, a fast-flying cloud,
A flash of the lightning, a break of the wave,
He passeth from life to his rest in the grave.

"The infant a mother attended and loved;
The mother that infant's affection who proved;
The husband that mother and infant who blessed, —
Each, all, are away to their dwellings at rest.

"So the multitude goes, like the flower or the weed
That withers away, to let others succeed;
So the multitude comes, even those we behold,
To repeat every tale that has often been told.

"For we are the same our fathers have been;
We see the same sights our fathers have seen;
We drink the same stream, and view the same sun,
And run the same course our fathers have run."

The next portion of the exercise will, I think, be of the most interest, as it is to consist of several short quotations and statements by some of my brightest little ones. I shall ask a series of questions and the little ones will answer. I send you some of the questions and answers: —

Ques. When Lincoln had made his first speech in the East, what did the New York Tribune say of the speech?

Ans. "No man ever before made such an impression on his first appeal to a New York audience."

Ques. Please tell us one of Lincoln's utterances which we might all remember and live by with profit.

Ans. "How hard, O how hard it is to die and leave one's country no better than if one had never lived in it!"

Ques. What did Lincoln say when some one thought he ought not to free the slaves?

Ans. "I have promised my God that I will do this."

Ques. What did he say of this act of his, two years after the slaves were made free?

Ans. "It was the central act of my administration and the great event of the nineteenth century."

Ques. After Lincoln had been President four years, and as he was beginning his second term, what beautiful thoughts did he give utterance to?

Ans. "With malice toward none, with charity for all, with firmness in the right, as God gives us to see the right, let us strive on to finish the work we are in, to bind up the nation's wounds, to care for him who shall have borne the battle, and for his widow and orphans, to do all which may achieve and cherish a just and lasting peace among ourselves and with all nations."

Ques. What words of Lincoln's, which we will do well to follow, were uttered over his body as he was buried?

Ans. "Before high Heaven and in the face of the world, I swear eternal fidelity to the just cause."

After the Principal has made what remarks he may think proper as to the character of Lincoln in his manhood as shown in his youth, we shall close the afternoon's exercises by singing two verses of the "Hymn of Peace," by Oliver Wendell Holmes. This will be sung by the whole school to the tune of Keller's American Hymn.

There now, if I haven't given you a pretty clear idea of what we are to do to fix in the minds of our scholars, particularly of those in the three upper grammar grades who are to take part, a little patriotism as well as a little more about Washington and Lincoln, then it is because you haven't read this letter at all carefully.

We are expecting a nice time and I wish you were to be here to enjoy it with

Your affectionate cousin

MAY.

Be you tempted as you may
Each day, and every day,
    Speak what is true —
True things in great and small;
Then, though the sky should fall,
Sun, moon, and stars, and all,
    Heaven would show through.

—*Alice Cary.*

EXAMINATION QUESTIONS.

Given at the Lawrence Street School, Newark, N. J. June, 1888.

GEOGRAPHY — FOURTH GRADE.

GRAMMAR DEPARTMENT.

1. Use not more than ten or fifteen lines, and describe the section of the United States called Pacific States and Territories, as regards the seasons, scenery, fruits, and occupation of the people.

2. Write what you know about the West Indies, as to their chief exports, chief commercial center, and the names of the islands in order of size.

3. Compare Eastern and Western United States as to physical characteristics, forests, business, and mines.

4. Under what government is Canada? Name its five important provinces. How does Canada compare in size with the United States?

5. Name some of the chief products of the United States, and tell from which section they are obtained. Name the three largest cities of the United States. In which state is each found?

6. Name five of the large cities of the Central States; tell how they are situated.

7. Write a short paragraph, telling about the climate, surface, and commerce of the Central States.

8. What is your card record as to your work in geography during the year? Are you satisfied with it ?

ARITHMETIC — FOURTH GRADE.

GRAMMAR DEPARTMENT.

1. Mr. Stone bought the following articles of Mr. Decker. Make out a bill for the same and receipt it: —

36 bushels of oats at 37½ c. per bushel; 56 barrels of potatoes at $2.50 per barrel; 17 tons of hay at $16.75 per ton; and 42 cords of wood at $3.12½ per cord.

2. Four men, A, B, C, and D, bought a ship together for $16,256; A paid $4756, B paid $763 more than A, and C $256 less than B; how much did D pay?

3. Bought 84 gallons of syrup at 75 c. a gallon and sold it at 22 c. a quart; did I gain or lose? and how much?

4. A grocer bought 1365 sacks of coffee at $20 per sack; he sold 563 sacks at $25, and the remainder at $27 per sack; how much did he gain or lose?

5. A farmer exchanged 825 bushels of potatoes, worth $.89 per bushel, for tea worth $.75 per pound; how many pounds of tea did he receive?

6. If 128 tons of iron cost $9632, how many tons can be bought for $1730.75?

7. If 48 barrels of flour cost $360, what will 609 barrels cost?

8. If a man earn $42 a month, how much will he earn in ⅔ of a month? Analyze.

LANGUAGE — FOURTH GRADE.

GRAMMAR DEPARTMENT.

(**NOTE** — When the question calls for a particular thing, UNDERLINE the example which you give in your answer.)

NOTE. — Read carefully the following paragraph:

1. "The officer in the boat soon saw that there was little chance of reaching the spot in time to save the dog. Poor Bobby swam and dodged till he was almost tired out. 'Stop rowing!' cried the officer to the men. His master rose, pointed his gun and fired. 'Hurrah!' cried the sailors, 'Bobby is safe!'"

a. Select and copy a statement from this paragraph.

b. Select and write a command and an exclamation.

c. Select and write in a column a noun that means more than one, a word that expresses quality, three verbs and one adverb.

2. Use the following words in sentences of your own, so that they will denote possession: Mary, bird, boy, dog.

3. Write sentences of your own, containing: A pronoun denoting possession, an adverb, a preposition, a verb, a plural noun, an adjective.

4. Write a story that you have read or heard, not less than ten lines.

NOTE. — In judging the composition note the following four points:

a. General appearance, including margin and indentation.

b. Punctuation.

c. Capitals.

d. Grammatical forms so far as studied, arrangement and length of sentences.

GEOGRAPHY — THIRD GRADE.

GRAMMAR DEPARTMENT.

1. Compare North and South America as to size, shape, surface, large rivers, large cities, outline, climate, and productions. (Use from fifteen to twenty lines. Exercise care in penmanship, spelling, and composition.)

2. Draw a map of Asia and Africa, also of Australia, in outlines, noting the oceans, seas, and peninsulas.

3. In a short paragraph, describe the surface of Europe.

4. Into what countries is the island of Great Britain divided? Bound the German Empire.

5. In which group of islands is St. Thomas? San Domingo? Barbadoes? Borneo? San Juan?

6. Name an ocean of North America; also a sea, peninsula, gulf, bay, mountain, river, and three large cities.

7. What kind of a record have you had during the year in geography? Of what use has the study been to you?

ARITHMETIC — THIRD GRADE.

GRAMMAR DEPARTMENT.

1. Prepare a bill of the following items: 21¾ yds. cambric at 15½ c. per yd.; 6¼ yds. of cashmere at $1¼ per yd.; 12 yds. muslin at 14¾c. per yd.; 14 spools of twist at 3½ c. per spool, and 15 yds. calico at 9½ c. per yd.

2. Write a fraction and multiply the numerator and state definitely how the value of the fraction is affected.

Write another fraction and multiply the denominator, and state how the value of the fraction is affected.

3. From a plot of land containing 480 acres, there were sold at one time $20\frac{1}{2}$ acres; at another $28\frac{3}{8}$ acres; at another $48\frac{1}{6}$ acres. What is the remainder worth at $15 per acre?

4. How many pounds of tea at $\$\frac{7}{8}$ per pound, will pay for $4\frac{3}{4}$ baskets of peaches at $\$\frac{5}{8}$ per basket?

5. If $7\frac{1}{5}$ yards of cloth cost $4.50, what cost $36\frac{4}{5}$ yards?

6. The divisor is 4.75, the quotient is 24 and the remainder is 2.5; what is the dividend?

7. Divide 13. by $78.12\frac{1}{2}$. Have four figures in the answer.

8. If $\frac{5}{6}$ of a vessel is worth $20,000, what is the value of $\frac{3}{8}$ of it? Analyze.

LANGUAGE — THIRD GRADE.

GRAMMAR DEPARTMENT.

(NOTE — When the question calls for a particular thing, UNDERLINE the example which you give in your answer.)

1. Write a letter to your teacher, telling her what you would like to do in vacation. (Not less than ten lines.)

NOTE. — In judging the composition note the following four points.

a. General appearance, including form, margin, indentation, and neatness.

b. Punctuation.

c. Capitals.

d. Grammatical forms as far as studied, arrangement and length of sentences.

2. "When Benjamin Franklin was a boy, he was very fond of fishing, and in the story of his life, written by himself in later years, he gives an amusing account of an exploit that grew out of this sport."

a. Select all the phrases in the above paragraph.

b. Select the predicates in the paragraph.

3. Write three sentences of your own, using an infinitive in each, and tell how each is used.

4. In sentences of your own, use talking (*a*) as a participle; (*b*) as a noun; (*c*) as an adjective.

5. Diagram: Ticonderoga was taken from the British by Ethan Allen.

6. Parse the words in the sentence you analyzed.

7. Write a sentence having an *explanatory modifier*.

8. For a long time Robinson Crusoe thought he was quite alone on the island, but one day he found the ashes of a fire on the sand by the sea-shore. Select

a. The predicates.

b. The objects.

c. The attributes.

HISTORY — SECOND GRADE.

GRAMMAR DEPARTMENT.

1. Name four events of great importance which occurred before 1790. Tell *why* you consider each important.

2. Give two incidents in colonial history showing the treatment which the white people received at the hands of the Indians. Describe both of these events.

3. Name the three men who were not soldiers during the Revolution, but who assisted the colonists in securing their independence. Tell briefly what each did.

4. Name the thirteen original colonies. Underline the names of those settled for the purpose of securing religious freedom. Name the state which was settled for those who had been very poor and destitute. Give briefly the history of Pennsylvania.

5. Tell why each of the following battles was of great importance: Bunker Hill, Long Island, Brandywine, Saratoga.

TECHNICAL GRAMMAR — CLASS I.

1 "*Hope springs* eternal *in* the human *breast*." Analyze.

2. Parse words underlined.

3. We are all aware however that Grant the conqueror of the Rebellion was a calm cool and persistent man. Punctuate.

4. What words admitting of declension, in the English language, change their form in the objective case? Mention them all.

5. Give the plurals of spy, ferry, valley, wharf, penny, thief, gulf.

6. Use the following words in such sentences of your own as will show that you understand the meaning of the words: principle, remonstrate, conspicuous, obscure, champion.

7. Give a synopsis, potential, third, singular, active, and passive of applaud.

8. Construct a sentence with the simple subject enlarged by a past participle and the simple predicate by a present infinitive.

9. Write a sufficient number of sentences to illustrate the different uses of homes.

10. Latin is taught by Professor Smith; change into corresponding active form.

11. Prove in four ways that "scissors," in this sentence is plural. "These scissors are so dull that I cannot use them."

12. Write four sentences; the first to contain *who*, in the second person, plural number; the second, *which*, singular number, objective case; the third, *whom*, masculine gender; the fourth, *that*, second person, singular number.

13. Combine into a simple sentence:

1. The president called a meeting.
2. It was a meeting of his cabinet.
3. It was called late at night.
4. It was at the suggestion of Adams it was called.

14. When do adjectives begin with capital letters? Illustrate.

15. State the difference between a personal pronoun and a relative pronoun. Illustrate each, underline and label.

A BASKET OF CHIPS.

DAKOTA has 4,065 public schools. They are supported by a direct tax upon the people, amounting, in a recent year, to $1,633,561 — a sum which Mr. P. F. McClure says, in *Harper's Magazine* for February, is larger than that devoted to the same purpose by any one of twenty-four states.

PROF. JAMES BUSHEE, who died at Woonsocket, Dec. 25, aged 83, had been a teacher 58 years.

CLARK UNIVERSITY, at Worcester, is to have no regular academic classes, but will "afford means and opportunity for the pursuit of knowledge to the farthest bounds."

PRESIDENT ADAMS, of Cornell, brings a severe indictment against our American schools. He says: "I believe that in the primary and lower grades, no person of impartial judgment can observe our schools in comparison with those of Europe without admitting our great inferiority." Many persons, however, take exception to this statement, and among them is the learned Jewish Rabbi, Doctor Schindler, a native German, lately elected member of the Boston School Board by a unanimous vote of over eighty thousand.

THE series of brief biographical sketches which forms so interesting a feature of the current volume of *The Chautauquan* is continued in the February issue by an article on John B. Gough, by Prof. Charles J. Little, of Syracuse University.

IT is now hoped that H. M. Stanley is alive and safe somewhere in the wilds of Africa. There is a lesson in his humble origin. At three years of age he was sent to a poorhouse in Wales, where he remained ten years.

THE N. E. A. at Nashville, and the A. I. of I. at Bethlehem, next July.

CLARA BARTON, the worthy president of the "White Cross" association, has her headquarters in Washington.

THE "Red Cross" nurses have done a wonderful work in Florida.

THE present School Board of Boston has not a single Christian minister among its members. It has one Jewish Rabbi.

BOOK NOTICES.

PRIMARY WRITING By Mara L. Pratt. Boston: Eastern Educational Bureau. Price 15 cents.

This is an ingenious method of teaching the elements of penmanship to young children. It consists of nine sections or lessons. The first one is introductory and unfolds the fundamental principle upon which the lessons are planned. The method is based upon a careful description of what is to be done, which is given in such a way as to create an interest — indeed, an enthusiasm on the part of the children in the work before them. The first device employed is a set of cards put into the hands of the children with parallel lines slanted at the correct writing angle. Over them thin paper is to be placed upon which the children will practise till they have acquired the habit of making lines upon that particular angle.

The next device is to give the children three straight splints, or tooth picks, with which they can make ten or twelve "print letters." Then with an "under curve," an "over curve," and a "slant," the basis of all the letters can be made.

After this the lessons unfold by a very simple process rules for the making of the entire alphabet.

The plan is original, unique, natural, and philosophical. Many primary teachers will find this little device extremely useful saving them much time and trouble. Sent to any address by mail, prepaid, on receipt of the price, 15 cents.

SHOUP'S GRADED SPELLER. A Drill Book on Spelling, Pronouncing, Defining and the Analysis of Words. By William J. Shoup, M. S. St. Paul. Minn.: D. D. Merrill, Publisher. Sample copy mailed for 20 cents.

This excellent book is the outgrowth of a practical teacher's practical experience. It retains what is good of other Spelling-books and introduces many features of great worth that are not found in other works of the kind. This speller is graded to correspond with the various books of the graded series of readers in use in the common schools. The sounds of the letters and their diacritical markings are well presented. Skillfully arranged word-groups, drills on the use of homonyms, synonyms, etc., are introduced throughout the book. The rules of spelling are clearly stated and exercises on derivation of words run through the higher grades.

BRIEF VIEWS OF UNITED STATES HISTORY. By Anna M. Juliand. Syracuse, N. Y.: C. W. Bardeen. 1888. Pp. 68.

A brief view of the leading facts of the history of our country, chronologically arranged. The various administrations are given with the leading events of each period. A very useful aid to teaching this history.

EXCELLENT QUOTATIONS FOR HOME AND SCHOOL. Selected for the use of teachers and pupils, by Julia B. Hoitt, California. Boston: Lee & Shepard. Pp. 329.

A capital collection of gems, as "Guides to Conduct," "Glimpses of Nature," "Patriotic Selections," "Biographical Eulogies," "Recitations for Younger Pupils," and "Proverbs." These selections are well chosen and make a book of great value, not only to the schools but the general reader and families.

FIFTH NATURAL HISTORY READER. By the Rev. J. G. Wood, M. A. Boston: School Supply Company. Pp. 281.

Well illustrated, and containing selections from all branches of Natural History. Nothing more readily interests children than animal life, hence this book will be very popular everywhere in the schoolroom.

CHOICE SELECTIONS. By Chas. Northend, A. M., author of "Teacher and Parent," "Teacher's Assistant," etc. New York: D. Appleton & Co. 1888.

This volume was originally published in two separate parts, but the compiler felt that a combination of the two would prove more acceptable, therefore they are so presented in this issue. The book contains about six hundred selections, from more than two hundred authors, and each selection contains a thought worthy the attention of youth. They are designed for lessons in recitation, reading, morals and literature. In the second part, in addition to the name of the author, is given the place and date of his birth, and the date of his death, unless he is still living.

MONOGRAPHS OF THE INDUSTRIAL EDUCATION ASSOCIATION. Edited by Nicholas Murray Butler, Ph. D. Has for its seventh number MANUAL TRAINING IN ELEMENTARY SCHOOLS FOR BOYS. By J. Sluys. Part I. Price for single copy 20 cents. $1.00 a year.

RIVERSIDE LITERATURE SERIES. No. 38. THE BUILDING OF THE SHIP, AND OTHER POEMS. By Henry W. Longfellow. With Introduction and Notes. Extra number. LITERATURE IN SCHOOL. An Address and two Essays, by Horace E. Scudder. No. 39. December 1888. BOOKS AND LIBRARIES AND OTHER PAPERS. By James Russell Lowell. Boston and New York: Houghton, Mifflin & Co. Single numbers 15 cents. Yearly Subscription (6 numbers) 90 cents.

FIRST STEPS IN READING. By Martha A. Pease. Published by S. R. Winchell & Co. Chicago.

This little book will commend itself to all teachers of primary grades from the fact that it begins with the simplest lessons and does not proceed too rapidly.

SONGS AND GAMES FOR THE LITTLE ONES. Words, translations and originals, by Jane Mulley. Music arranged by M. E. Tarbam. New York: W. D. Kerr, publisher. Price 25 cents.

Thirty-five bright, simple and pretty songs and games for the Kindergarten or primary school, or for the home. The music is not too difficult for the little ones, the words are bright and attractive, the games accompanying the songs are clearly described.

From The Teachers' Publishing Society, New York, we have received the following valuable little paper covered books, by W. M. Griffin.

SUGGESTIVE QUESTIONS IN ARITHMETIC. SUGGESTIVE OPENING EXERCISES.

SUGGESTIVE QUESTIONS IN LANGUAGE. SUGGESTIVE QUESTIONS IN GEOGRAPHY.

CASSELL NATIONAL LIBRARY. No. 154. CYMBELINE. By William Shakespeare. No. 155. HOLY LIVING. By Jeremy Jaylor, D. D. Vol. I. No. 156. PLUTARCH'S LIVES of Numa, Sertorius, and Eumenes. 10 cents each.

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TRAINING SCHOOL
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COMMON SCHOOL EDUCATION.

DEVOTED TO THE ART OF INSTRUCTION.

VOL. III. MARCH, 1889. No. 3.

HARRY'S IMPRESSIONS OF HIS TEACHERS.

BY PRUDENCE GRANT.

HARRY is a neighbor of ours, a bright, sturdy, independent, little fellow about twelve years old. We have n't known him very long; but last spring when mother hurt her foot just after we moved into the neighborhood, he offered to bring her a pail of water one morning as he saw her limping to the well, when he passed on his way to school. Since then, he has done her many a kind turn, and mother's lonely life has been greatly cheered by Harry's boyish friendliness.

I am not a teacher myself, and it may seem strange for me to be writing to an educational magazine; but I have always been interested in teachers and teaching, and I should have been one if I could have done what I liked best. But you see in our town, they do not pay very high salaries. The highest a teacher can get is ten dollars a week; and then only after she has taught a number of years, and can get the principalship of a building. So when father died and I had mother to take care of, I had to think, not of what I liked best, but of how I could best turn my high school education into money enough to keep us both. I was quick and accurate. They offered me a place in the printing office and now I can easily earn my two dollars a day with frequent chances at an odd job out of hours. Of course I must leave mother alone more, but I can keep her more comfortable on the whole, than I could if I had tried to teach.

A few days ago, the day after the weekly paper had gone out — my easiest day in the week always — while I was waiting for more copy, Harry came in and came over to my desk. I was surprised to see him, for it was but half-past ten in the morning, and was afraid for a moment that something had happened to mother, but he soon explained his presence at that unusual hour. He had been sent down by his teacher to Mr. Corson, our editor, who is school supply agent, for paper for the weekly examinations. Not finding Mr. Corson in the office he had come up to see me while he was waiting. I knew that Mr. Corson would not be in until nearly noon and told him so but he did not go. He lingered about asking questions about the type and the presses in quite an intelligent fashion, until I reminded him that time was passing and his teacher would expect him.

"Oh, I 'm not going till I get the paper," he replied, brusquely.

"But won 't you miss your recitations?" I suggested.

"Miss Haight will scold, any way. She always does. She 's an old hateful. May as well give her something to scold for," he replied, in a more petulant tone than I had ever heard in Harry's voice.

"Why, Harry," I said, "I did n't think you were a boy who would talk like that about his teacher. I 'm afraid if Miss Haight scolds it 's because you give her something to scold for."

"Now, Miss Prudence," he rejoined, "you don't know Miss Haight, and we boys do. You 'd just better believe we do. I always liked my teachers when they were decent to me, but she is n't. She does n't know how to treat a feller, or if she does, she never does it. She gives you a check every time you turn round, every time you look at another feller, every time you drop a pencil, every time you do anything, 'n' if you get eight checks, you get a whipping. And she 's always a whippin. The other day she made us so mad. You know little Jamie Vaughn, don't you? Well, he 's lame. Suthin th' matter with his hip, so 't sometimes he can't sleep nights, 'n' then he comes to school so white, you 'd think he 'd been livin' on skim milk. 'N' the other day, he went to sleep right in school, 'n' when she called his class, he did n't hear her; 'n' she just come down that aisle 'n' dragged him out of his chair by his collar 'n' shook him till me and Charlie Goodrich, we could n't stand it any longer. We just got up and told her, 'Why did n't she take a feller of her size, 'n' not a little weak, sickly chap like that?' 'N' she let him go then. Charlie Goodrich lives on the avenue. Poor little Jamie has n't been well enough to come to school since. P'raps if he 'd lived on the avenue 'stead of in one o' the factory houses, she would n't have hurt quite so much."

"Now, Harry," said I, "I 'm afraid you 're unjust to your teacher."

"No, Miss Prudence, just ask any of the other fellers if you don't believe me. She never punishes the boys and girls from the avenue, but they don't like her any better 'n we do. She 'll never believe what a feller says. There was an awful mean thing done in the schoolyard last term. 'Twas a nasty trick, Miss Prudence, I could n't tell you about it. The feller that done it ought n't never to show his head among decent boys. All the teachers was tryin' to find out who done it, and one of the little shavers down stairs said 'twas Ed Moran. Two years ago I might have thought so myself. Ed's mean enough now, but he is n't quite so mean as that. Besides, us boys knew Ed was n't round when 'twas done. He was up with us on Benson Hill after chestnuts all that noon. 'N' we all told her so, 'n' John Kelly said he came back first 'n' three of the big boys in the highest room were right there where it was done. But she would n't believe him, nor she would n't believe us 'n' she sent Ed to the Superintendent and had him expelled. But we boys know now who did it, and it was n't Ed Moran either. We don't dare tell of him, 'cause he's too big for us, but we know he's a mean old sneak and a coward."

"But, Harry, don't you know that you should n't say 'who done it,' and 'ought n't never' and 'us boys'?" I interrupted, thinking I might perhaps divert his attention.

"Yes, I know," he assented, "we used to correct each other in those things last year, and I got so I did n't make half so many mistakes. We used to raise our hands always in class time whenever we heard anybody say anything that was n't just right. And we saved up all the mistakes we heard anywhere else an' brought 'em in to have 'em corrected in the language class. We started to do it this year, after Miss Haight come—came, I mean,—but she said we need n't do it any more. We did n't have to study grammar in that room, and she was n't going to be bothered. We used to have lots of fun last year. Miss Sweetland was a boss teacher. I wish we had her this year. I 'm sorry she 's sick. She was a daisy."

"What do you mean by that, Harry?" I asked.

"Well, you see, Miss Prudence, she knew boys, and she liked 'em, and we liked her."

"Were n't you ever naughty with her? Did n't you ever have to be whipped?"

"Me! Miss Prudence, I would n't be so mean. Spose I'd do anything to make *her* whip me? Old hateful's whipped me more'n twenty times this year, and I did n't care, but I would n't be mean enough to have *her* whip me—Miss Sweetheart, I mean—that's what we called her. She did n't ever whip a feller, 'less he 'd done somethin' orful, and then I 'd rather have fifty whippings than have her look and talk so sorry."

"But did n't she ever whip anybody?" I asked, interested in this new phase of school government.

"Never but once while I was in her room," he replied, "and then I'd 'a' licked the feller myself if I'd been big enough. 'T was that Phil Kennedy. He don't come to school no more now. He'd just come in from the mill and thought he was bigger 'n all out doors and there could n't nobody lick him. An' he sassed her right up an' down, and said he would n't when she told him to come to her. I 'spose he thought she was such a little thing, not so big as he was, that she would n't dast to touch him. But she was plucky, she was. She told him to take his hat and books and go, and not come back till he could behave himself like a gentleman. An' he stood there with his hands in his pockets an' scowled at her. Me and Charlie Goodrich was just ready to help her. But my! she did n't need *us*. She grabbed him by the collar; I don't know how she did it, but she had him out in the entry in no time; and for all she was so white when she came in, she was just as pleasant as if nothin' 'd happened. We boys wondered how in the world she did it an' we talked it over some and Will Foss brought to school a big piece of iron ore. She liked us to bring in such things and she'd tell us about 'em. 'T was most as big as my head and orful heavy. But would you believe it, Miss Prudence, she could muscle it straight out in one hand,—that little thing! There was n't a boy in the room could, but she let us try twice a day so we'd grow stronger."

"She used to tell us about lots of things; 'bout birds 'n' squirrels, 'n' trees, 'n' rocks, no matter what we brought her, she could tell us something about it and she liked to. Some of 'em tried the same thing with Miss Haight, but she called it all rubbish,—said she was n't going to have her schoolroom littered up with such stuff. We'd better spend our time on our lessons."

"She must have been a very interesting teacher," I suggested, "but how did she keep you restless boys in order without whipping?"

"Why, just as easy," said Harry, eagerly. "She said we must keep ourselves in order, but sometimes we forgot and then she'd just come this little business"—gently clapping his hands together—"just enough so we'd know she saw us, and then sometimes when we'd forgotten all about it, she'd say something that would make a feller feel so 'shamed he'd never want to do it again. Why, one day, when she was hearing the B class in geography, and we were doing our arithmetic, Charlie Goodrich joggled my desk. I gave him a poke to make him sit still and he turned round and made a face at me. Then we heard her little hands and we stopped. Next day when we were standing round her desk before school, talking about a Jack-in-the-pulpit John Kelly had found, she looked up at Charlie and said, 'What were you doing to Harry yesterday, when I saw you? Making faces?' Charlie, he turned red and lookéd at me, and said 'Yes 'm.' And then she looked at me and asked me what I did to Charlie. And I said I poked him 'cause he joggled my desk, and spoiled my figgers.' And then she said 'Did you mean to spoil his figures, Charlie?' And he said, 'No 'm.' And then she said to me, 'Did you think Charlie meant to spoil your figures, Harry?' and I said, 'No 'm' too. And then she said 'What do you boys think about poking and making faces any way? Did you care if he poked you, Charlie? Did you care if he made faces at you, Harry? Don't you think that 's rather baby business for such big boys as you are? I 'd like *my boys* to be gentlemen.' That 's the way she made us ashamed. But the best of her was that she always believed a feller. No matter what he said, if he looked her straight in the face and said it, she 'd believe him. There could n't one of the fellers lie to her, not even Ed Moran. 'T was too mean. That 's the kind of a teacher to have, is n't it, Miss Prudence?" he added, as Mr. Corson came in the door. "Why don't you be a teacher, Miss Prudence?"

BEAUTY IN THE SCHOOLROOM.

BY MARY E. CARDWILL.

II.

STUDIES.

TO impart facts, or to guide children through the mazes of a certain amount of textbook information, is generally supposed to be the end and aim of a teacher's vocation. Her field of action being therefore so limited, she has little or no opportunity for originality in the work of her profession; she can do little more than follow established systems of teaching. But while greater liberty for teachers is perhaps necessary for a satisfactory development of the æsthetic side of a child's nature through his studies, every teacher can and should keep ever in view the element of beauty in all studies.

The development of love for beauty is in itself worthy to be considered as one of the great ends of education. It may also be made of the utmost practical use in assisting and inducing children to acquire knowledge.

Natural Science offers the most fascinating opportunities for lessons in æsthetics. Necessary facts and technicalities, dry, and of themselves difficult to learn, will be acquired with comparative ease, if sugar-coated with impressions of beauty, ever present in the color, form, and symmetry of plants and animals, rocks and streams, snow and clouds, and other elements of nature. In these studies there are indeed so many things to charm a child, that dryness, as applied to natural science, should come to be regarded almost as a paradoxical term. Again, if the æsthetic idea was ever kept uppermost, natural science would serve much more surely as a means of mental training. An agreeable, and therefore absorbing, search for beauty inevitably quickens a child's powers of perception, and as a consequence his mental faculties become brighter and more alert.

The teaching of elementary drawing in our schools has received its meed of praise, chiefly because it has been productive of good from a practical point of view. But the main question here, also, is, has there been a proportionate increase in the power of children to behold beauty? Beauty in curved lines and all graceful forms and combinations? Drawing lessons are more or less of a failure if they cultivate only mechanical instincts.

A musical education, so-called, is now given to most girls, and to many boys. Yet, in even this purely ornamental branch of education, technical and external elements too largely predominate. Higher praise is given, to amateurs at least, for a good mechanical performance of difficult finger or vocal gymnastics than for the most perfect spiritual interpretation of a simple though beautiful melody. The latter is enjoyed but its absolute superiority is seldom acknowledged. It is without doubt this failure to exalt the real beauty of music, its spiritual essence, above mere perfection of execution, that so often renders musical culture powerless to exert its theoretically refining influence.

To return to what is more directly mental instruction, special means for æsthetic culture is found in English literature, modern languages, and the ancient classics. An ability to appreciate and to enjoy the beauties of English literature alone implies no slight degree of education, in the best sense of the word. Shakespeare has provided a fund of poetic beauty, which can scarcely be drawn upon too often for the instruction of the young. The careful reading of the best of these plays, in properly expurgated editions, might be made a pleasant pastime for classes under the direction of a wise and skilful teacher. Nor could there be any better means for the development of thought and imagination, and for the cultivation of sensibility and literary taste.

The monuments of literature in the various modern languages might be used in the same way, and the different languages without doubt would then be more easily and more agreeably acquired.

The time is probably coming, it is to be hoped very soon, when the idea of using classical studies simply, or chiefly, as a means of mental discipline will be done away with. Boys and girls in that happy era will be taught Latin and Greek because in those languages are stored up treasures of beauty which no translation can adequately reveal. To be capable of reading Homer and Virgil in the original, with absolute enjoyment, will then be a better proof of scholarship than the most accurate knowledge of Greek or Latin Grammar. In that blest time — will it be the millennium? — classical training in youth will not leave for after years only a painful memory and a regret.

Exact science may also be said to have beauty for its highest good. Beauty of harmony is a part of mathematical accuracy; and to a lover of problems there is a certain beauty, as well as an intellectual charm, in even the most intricate solution. All knowledge worthy of acquisition has in itself the power to arouse enthusiasm. When we become enthusiastic about any work we will almost surely love it; and it is one of those inexplicable things in life, that whatever we love seems clothed in beauty. Enthusiasm in its effect, thus becomes a sort of synonym for beauty. To develop children's enthusiasm for any school work is therefore, in a manner, a direct means of æsthetic culture.

In their highest forms, as connected with morals, æsthetics are more difficult to teach directly. Yet the beauty of goodness can be used as a strong appeal, especially to children just old enough to know good from bad. Their own innocent natures reveal to them the loveliness of generosity, kindliness, and truth. Their early instinctive love for this beauty may, in various ways, be strengthened and confirmed by wise teachers. Praise ever makes good deeds seem beautiful, and something worth striving for. Censure would be usually more effective if the ugliness of vice was dwelt upon, rather than the sin of violating a moral law. In short, if beauty were more often substituted for duty in the moral training of children, nobler, as well as more permanent results might be looked for.

Moral beauty may be inculcated in children, also, through books recording the deeds of great and good men; biographies of great and good writers, artists, scientists, statesmen, and philanthropists, stimulate ardent young people to emulation. Their enthusiasm for right action is aroused, and unconscious as well as conscious efforts are made to follow good examples.

The direct teaching of æsthetics, in the form of art history, would tend materially to the refinement of children's taste in every artistic direction. In high schools at least, illustrative books of art knowledge might be introduced with advantage as reading books, or as a part of Friday's exercises.

One thing more: the attention of children should early be called by parents or teachers to the beauties of nature; not simply for culture's sake, but also because by a keen appreciation of external beauty, man's capacity for enjoyment is made almost inexhaustible.

It is perhaps quixotic to hope for the day when broad æsthetic culture will be the rule, and when beauty will reign in the schoolroom. But it is pleasant for the imagination to picture a school that is always inviting, and a teacher ever looked upon, not as a stern taskmaster, but as a kindly guide to regions of happiness and light.

PRACTICAL BOTANY.[1]

BY PROF. W. WHITMAN BAILEY, A. M., BROWN UNIVERSITY.

III.

IN any plan of teaching there should be a place for frequent reviews. The system suggested in these papers, which is in effect that followed by many teachers, keeps this in mind. The work is not tiresome; the pupil hardly knows he is reviewing. Any well-constructed schedule brings before the class, every day, all the back work, but, as this is incidental to plant description, they have no horror of it. In Greek and Latin sometimes such a distaste for reviews has been acquired that ever afterward even a military review becomes obnoxious.

To point the above moral, bring in every day a lot of plants and exercise the pupils in their ability to distinguish the classes. Present exceptions also, as these may turn up in their own experience, with no teacher by to explain them.

We now come to the study of the Root. Some beet roots, carrots, and turnips should be brought into the class and a specimen of each placed before the pupil, requesting him to pursue the following course.

1. Describe the external aspect of the root, as to size, color, form, character of surface, and, indeed, any noticeable peculiarity.
2. Make a careful drawing of it.
3. Make vertical and transverse sections; describe and draw.
4. Notice if there are any branches, and if so, where they arise.

Other points may suggest themselves as teacher or pupil handle the object. Do everything to stimulate inquiry and original observation.

After the class has worked upon these questions applied to three or more roots, the teacher can interject a little talk. He can now speak of the Ascending and Descending Axes, and contrast the modes of growth in the two. The root projects into the earth, seeking moisture and darkness. It grows by extension just back of the tip, which is protected by the root-cap. This, formed by cells, no longer vital,

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[1] Copyright, 1888, by Eastern Educational Bureau.

may be compared to a thimble covering a finger. Its function is to prevent distortion, flattening, or abrasion of the young growing root. A root absorbs by the root-hairs back of the tip. These fall off after a while, and new ones are formed farther on, as the root extends into the soil. Roots help to fix the plant to the soil, but possess the still more important function of absorbing by the myriad root-hairs the dissolved constituents of the soil. Explain, and if convenient, show in some simple way the principle of *Osmosis*. This may be defined as that power by which two liquids of varying density, separated by a membrane or a porous substance, tend to equalize each other by passage through the intervening medium. Let the class know that the root-hairs are elongated cells closed at the end, and that hence they can only receive fluid by imbibition through the cell wall.

The close observers have already noticed that the root branches arise without the precise order that marks the ramification of the stem. Yet, in the carrot, for instance, they exhibit a tendency to arrange themselves in straight lines up and down the root. A good drawing always develops this point.

Now, if we turn to any of the stems lying on our table, we will observe that these grow by elongation of the internodes, i. e., by growth between the joints where leaves arise. These joints are better called the nodes or knots. Lastly, we see that the stem bears, or has borne, leaves; that buds stand in the axils of these, and that one bud (most commonly) terminates the stem. The special study of Buds we will defer to a later lesson.

But before passing to these, we should consider root stocks, tubers, corms, and bulbs, all forms of subterranean stems, clearly emphasizing that they are not roots but part of the ascending axis. A class even of children soon learns to distinguish them by their manner of growth.

For purposes of comparison have at hand some common white potatoes, sweet potatoes, and onions. Let them describe and draw these, telling in each case whether they are of root or stem nature. Dissect them as well. A table of likenesses and differences can then be made. Call attention to the abundant supply of starch in the potato. If a microscope is at hand show the form of starch grains and apply the test with Iodine. It is always pretty and instructive.

By all means encourage school classes to make "cultures," i. e., to grow different seeds for themselves. Good ones to try are those of Flax, Morning-glory, Beans, Peas, Indian-corn, and Oats. Any of these will germinate readily, and if planted a day or two apart will make an instructive series. Start them on moist cotton-batting, or filter paper, or in peat-moss, or in a wet sponge. View and contrast them in all their stages of growth. Such observation gives a vital interest to the work.

PRACTICAL METHODS OF TEACHING SPELLING.[1]

(*Second Series.*)

BY ANNA B. BADLAM.

Rice Training School, Boston, Mass.

III.

Lesson 28. Irregular Forms of Action words.
The Present and the Past forms.

throw *threw* *grow* *grew* *blow* *blew*

Lesson 29. The Initial letter changes. — *O* long.
The long sound of *O*. (Final *e* silent).

1. — Name words.

toe *foe* *hoe* *woe*

2. — Name words and their forms.

toes *foes* *hoes* *woes*

3. — Action words and their forms.

toe *toes* *toed* *toeing*
hoe *hoes* *hoed* *hoeing*

Lesson 30. The Initial letter changes. — *U* long.
The long sound of *U*. (Silent *e*.)

blue *pure* *mule*
clue *cure* ——
glue —— ——

Lesson 31. The Final letter changes. — *U* long.

you *your* *yours* *youth*

Union of EW. (ew = ū.)

Lesson 32. The Initial letter changes.

dew *few* *pew* *flew*
new *mew* *stew* *blew*

Lesson 33. The effect of final E. — *U* short; *U* long.

tun *tune* *cub* *cube* *hug* † *huge*
tub *tube* *cut* *cute* —— ——

† Change of sound, G like J.

Lesson 34. The Initial letter changes. — *U* long.

cute	*mute*	*lute*	*flute*
——	*mutes*	*lutes*	*flutes*

The Union of OY.

Lesson 35. The Initial letter changes. — *OY.*

boy	*toy*	*joy*
boys	*toys*	*joys*

Lesson 36. Words used as Stems to form new words by means of Suffixes.

boy	*joy*	*joy*	*joy*
boyish	*joyful*	*joyous*	*joyless*

The Union of OI.

Lesson 37. The Initial letter changes. — *OI.*

oil	*toil*	*spoil*	*join*	*joint*	*noise*
boil	*coil*	——	——	*point*	——

Lesson 38. Words used as Stems to form new words by means of Suffixes.

oil	*oily*	*oiler*	*toil*	*toiler*	*toilsome*
join	——	*joiner*	*point*	*pointer*	——
boil	——	*boiler*			

Lesson 39. Action words and their forms. — *OI.*

oil	*oils*	*oiled*	*oiling*
boil	*boils*	*boiled*	*boiling*
coil	*coils*	*coiled*	*coiling*
spoil	*spoils*	*spoiled*	*spoiling*
join	*joins*	*joined*	*joining*

Quality words formed from Name words.

joint	*jointed*	*point*	*pointed*
noise	†*noisy*		

† Change of spelling.

The Union of OW.

Lesson 40. The Initial letter changes. — *OW.*

bow	*now*	*mow*	*owl*	*growl*
cow	*how*	*vow*	*howl*	*fowl*

The Union of OU.

Lesson 41. The Initial letter changes.

1.

out *stout* *spout* *sprout*
pout *shout* *about* †*doubt*

† **Exception — change of spelling.**

2.

our †*hour* *loud*
sour —— *pound*

† **Change of spelling and meaning.**

Lesson 42. Action words and their forms.

1.

pout	*pouts*	*pouted*	*pouting*
shout	*shouts*	*shouted*	*shouting*
sprout	*sprouts*	*sprouted*	*sprouting*
doubt	*doubts*	*doubted*	*doubting*
sour	*sours*	*soured*	*souring*

2.

bow	*bows*	*bowed*	*bowing*
howl	*howls*	*howled*	*howling*
growl	*growls*	*growled*	*growling*

Lesson 43. The Initial letter changes. — *OU.*

house *round* *ground* *wound* *mount*
mouse *found* *pound* *bound* *count*

Lesson 44. Quality words and their forms. — *OU.*

loud	*louder*	*loudest*	*loudly*
proud	*prouder*	*proudest*	*proudly*
round	*rounder*	*roundest*	

Lesson 45. Words used as stems.

Name words.

houses	*rounds*	*grounds*	*pound*	*count*
house	*round*	*ground*	*pounds*	*counts*

Action words.

pound	*bound*	*mount*	*count*
pounds	*bounds*	*mounts*	*counts*
pounded	*bounded*	*mounted*	*counted*

LESSONS IN ENGLISH.

BY WILLIAM A. MOWRY.

III.

FIRST GRADE GRAMMAR SCHOOL.

IN our last lesson a few questions were given suggesting lines of study in several different directions upon the first stanza of Gray's Elegy. In this, it is proposed to pursue the same lines of thought, for the purpose of showing the pupils what is bound up in a simple bit of poetry, in reference to grammatical construction, analysis of the thought, derivation of words, synonyms, English customs, etc.

It is believed that most, if not all of these questions, though covering a somewhat wide range, are properly within the reach and capacity of the average pupils in the highest grade of the grammar school.

How many propositions in the first stanza? What kind of propositions? In what does the third proposition differ from the first two? In the first line, what does *parting* depend upon? What does *day* depend upon? By means of what word? What does *knell* depend upon? What element with *tolls* forms the first proposition? How is *herd* limited? How is *winds* limited? What question does *slowly* answer with regard to *winds?* What question—*o'er the lea?* What is the subject of the third proposition? What the predicate? What kind of a predicate? How is *plod* limited? What relation does *way* bear to *plods?* By what is *way* limited? By what is *leaves* limited?

Meaning of *curfew?* Derivation? What custom does it indicate? When was it introduced into England? By whom? How was it received by the people? At what hour was the curfew rung? Did the custom prevail in the time of Gray? What, then, is the force of the word as here used? Why does he say—*The* curfew? What bell rings the curfew here alluded to? Mention any allusion to the curfew in other writers. In what respect had the custom changed in the time of Gray, compared with the time of William the Conqueror? What custom have we that has descended from the curfew bell? Has the curfew been rung at different hours in different periods? Mention an instance from Shakespeare of the use of the curfew bell at a late hour. At what hour is it now rung in many places in New England?

Meaning of *tolls?* Derivation? Synonyms? Difference between *tolls* and *rings?* Is *tolls* a transitive verb? Has *knell* a signification kindred to *tolls?* Give other examples of an objective case denoting kindred signification. Meaning of *knell?* Derivation? Synonyms? Difference between *knell* and *peal?* Meaning of *parting?* Derivation? Synonyms? Why will not *departing* do as well? What does *day* here mean? From what language is *day* derived? How many words of this line are from the Saxon? How many from the Latin? What from the French? What is the meaning of *herd?* To what animals does this word apply? What is the difference between *herd* and *flock?* Between *herd* and *drove?* Name the classes of animals to which each of these words apply. How does the word *lowing* affect the picture of the scene? What circumstances render the word *lowing* appropriate? Is the verb *to low* onomatopoetic? What is the meaning *of onomatopoetic?* Derivation of *lowing?* What kind of a noun is *herd?* What is a *herd?* Derivation? Meaning of its primitive? Describe the change from its primitive to its present meaning.

What connection between *herd* and *hoard?* What are the different meanings of *herd?* Connection of *herd* and *hurdles?* Appropriateness of *winds?* From what language is *winds* derived? Give its derivation. Is *wends* from the same root? Give synonyms. Why is this preferable to *moves?* What additional feature does *slowly* present to the picture? Derivation of *slowly?* Meaning of *lea?* Derivation? Former spelling? What kind of a word is *plowman?* What form of composition does *plowman* illustrate? Derivation of *plow?* Give some description of the *plows* of former times. Describe the *plows* of the ancient Romans. What kind of a word is *homeward?* Derivation of *home?* In what family of languages do we find the word *home*, or its equivalent? Derivation of *ward?* Meaning of *ward* in composition? Give examples of the use of *ward* in different relations. Derivation and meaning of *plods?* Explain the appropriateness of *plods.* Is *plods* a transitive verb? Give the construction of *way.* Derivation of the word? Is it allied to *wag?* To *wagon?* What connection is there in signification? Meaning of *weary?* Derivation? Difference between *weary* and *tired?* Is the *way* weary or the *plowman?* Why then is *weary* applied to *way?* Describe the figure. How many transpositions of this verse can you make? Why is this order of words preferable to either of the others? What kind of a connective is *and?* What does it connect? What may a coördinate conjunction connect? Is the subject of *leaves* expressed or understood? What is here meant by *the world* which the plowman *leaves?* How can it be said that the *world* is left to *darkness?* What figure is employed in the use of *darkness?* From what language is *leave?*

Derivation? Is it allied to *live?* To *love?* To *believe?* If so, how? Derivation of *world?* Give the different significations? Derivation of *dark?* Different significations of *darkness?* Define darkness in the following quotations from the Bible: "Men love *darkness* rather than light."—John iii. "What I tell you in *darkness*, that speak ye in light."—Matt. x. "A day of clouds and thick *darkness*."—Joel ii. "Who hath delivered us from the power of *darkness?*"—Col. i. What is the meaning of the termination *ness?* What is its derivation? Does *and* connect words, phrases, or sentences? Derivation of *to?* *To* is the opposite of what preposition? Difference between *to* and *towards?* How many different words have the same pronunciation as *to?* Peculiar meaning of *to* in the following sentences: *To* and *fro?* today, tonight, tomorrow? *heave to?* "I will not;" "You shall *to*," or "*too*"? is the latter grammatically correct?

In this stanza from what different languages are words derived? How many words from each?

The above two hundred questions, more or less, upon *four lines of poetry*, carefully studied and answered, will, doubtless, give to most classes of the first grammar school grade a real love for the poem and a deeper insight into the depth and force and power, the beauties and variety and flexibility of our good old English tongue than months of study of the bare rules and unadorned principles and facts of English grammar.

It will not be necessary to carry forward this kind of study into the other verses of this beautiful poem, but a few notes upon the original form of the poem itself will be given.

It should be remembered that this poem was not published until several years after it was written. Previous to its publication it was rewritten again and again. The present reading was the one considered best by the author, but the following facts are at least worthy of notice:—

1. Between the third and fourth stanzas according to the present reading, the author at first had *four* stanzas, which he afterwards rejected. Several lines of these, however, he transferred and worked up in other parts of the poem. The following is one of these stanzas, and by some is considered a gem of sufficient worth to be inserted as the *fourth* stanza of the poem:—

"Hark! how the sacred calm that breathes around
Bids every fierce tumultuous passion cease;
In still small accents whispering from the ground,
A grateful earnest of eternal peace."

2. Another stanza which completes the account of the poet's day

was in the author's manuscript, and has frequently been published in the form of a note. It was designed to be inserted after the verse —

"And pore upon the brook that babbles by."

It reads as follows: —

"Him have we seen the greenwood side along,
While o'er the heath we hied, our labor done,
Oft as the woodlark piped her farewell song,
With wistful eyes pursue the setting sun."

3. Before the epitaph, Mr. Gray originally inserted a beautiful stanza, which was printed in some of the first editions, but which he afterwards omitted because he thought that it was too long a parenthesis in this place. The lines are worthy at least of a preservation: —

"There scattered oft, the earliest of the year,
By hands unseen are showers of violets found;
The redbreast loves to build and warble there,
And little footsteps lightly print the ground."

A poem so exquisitely fine, so rich in thought, and so highly polished, should remain *intact.* Let profane hands never patch it with their own words, nor with lines which, although written by the immortal poet, were rejected, showing that in *his* opinion the poem was better without them. We would not insert even a * in the poem, thereby *implying* that the poem is not complete.

METHODS IN GEOGRAPHY.[1]

(*Second Series.*)

BY LARKIN DUNTON, LL. D., AND MISS L. T. MOSES.

III.

NATURE LESSONS — SECOND YEAR.

The Mist or Fog.

"ONE misty, moisty morning, when stormy was the weather," sang little Jenny, as she came in to say good morning to Miss Foster, her teacher.

"Yes, Jenny, and I don't believe you could have seen the old man clad all in leather, even if you had chanced to meet him.

"Come, children, let us all watch the passers by, and see how far they get away from us before the mist hides them. We will watch the children, too, as they come to school."

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[1] Copyright, 1887, by Larkin Dunton, and Miss L. T. Moses.

"See, Miss Foster, there comes some one. All guess whether it is a boy or girl."

"Oh! you're too late, Fred!" said Jenny, "any one can see it's Mary. But really, Miss Foster, we cannot see a person two blocks away, can we?"

"No, my dear; but it is now time for school to begin. We will watch the mist during the morning."

After the devotional exercises the children were allowed to decide what they would like for their nature lesson, and of course they all chose the mist, which they had nearly all been watching, either with Miss Foster or by themselves. They were allowed to tell of their observations somewhat fully.

"You have seen very well this morning," said Miss Foster; "now I would like to have you to tell me what you think about the clearing away of the mist." Almost all of the children thought it would clear off during the morning, giving as reasons that it was thinner than it had been, that it almost always became clear after a misty morning, that the sun would drink up the mist, and that it was not a very wet mist.

About ten o'clock the sun had nearly peeped through, and the children were sent out to take a look at the earth and sky. At recess time, half an hour later, they were directed to look again, and report when they came in.

When the children came in, they were very anxious to tell what they had seen. Their reports were quite varied; but were as follows:—

"Miss Foster, the mist is entirely gone."

"No," said another, "it is partly gone; but you can see it, though the air is so clear that you can see people away up the street."

"I think it has gone up into the sky, but has not got very far up," said Jenny.

"The sun wanted a morning drink, and took the mist for his cup of coffee," said Fred.

"More likely his cup of water," interrupted Harry.

Miss Foster looked reprovingly at Harry, shook her head at Fred, and asked the children to tell why they did not like Fred's answer.

"Because the sun is so wonderful, so powerful," said Nellie, "that one does not think of him as taking a cup of coffee! It's too little!"

The children agreed with Nellie, and then Miss Foster brought their thoughts back to their observations; particularly to the fact that some thought it quite clear and others thought it only partly clear.

"The fact is," said observant Harry, "that it looks as though the fog was going up into the sky. Over toward the east there is a bank of cloud, and there the sky looks as though it had a thin veil over it."

"It looks as though it were trying to smile through its tears," said Nellie.

"Now all shut your eyes and look up at the sky, and see what has made Harry talk of the veil, and Nellie of the tears and smiles."

The children agree that Harry and Nellie have really told how the sky looks; and they determine to watch every fog to see if there is ever another mist as thick as this, and if ever another clears away with such beauty.

"But, Miss Foster, you have not asked us about the good which the mist does; and I know that it must do some good; for everything we have studied so far does," said one of the boys.

"I know one thing it is good for, Miss Foster."

"You may tell us, Lucy."

"It makes the grass and flowers fresh. I don't know that they drink it, for each little bit of mist is so small that there seems to be no bits alone, Miss Foster."

"Yes, it does give the flowers drink and makes them fresh and bright."

"I think it makes the sky pretty," said another.

"And I like to watch it and see how the people come and go in it."

"I don't think it is good for the sailors," said Fred whose father was at sea.

"You are all right, children, and we will think now only of the good it does, and then some one will tell me the three things that we like the mist for."

If the children are in the country, in watching the disappearance of the mist, they will note that it lingers over water and marshy places, and marks them out, even after it has gone from the higher and drier places. If they are at the sea-shore, they should be encouraged to watch for and make mental pictures of its coming and going; and they should know of its relation to the sea in its appearance and disappearance. In either case the following simple rhymes will please them.

THE FOG.

Soft and thick, soft and thick,
In its arms so white,
The mellow mist shuts street and house
And every one from sight.

Long I watch the people move,
Folded all about:
Very strange and dim they look,
Coming in and out.

It has gone at last away,
For I watched it go;
When it goes or how it goes,
Still I do not know.

When it comes again, I 'll ask;
And, if it will but tell,
What it is and whence it comes,
Then I 'll know it well.

THE SURFACE OF THE EARTH.

The lesson on rocks and soil this year, in addition to the things observed last year, should consider still further the kinds of rocks and soils with reference more particularly to their uses,—the soils for gardening, brick making, and grazing, the rocks for building and paving. Of course, the extent to which these observations and conclusions may be profitably drawn, depends entirely on the surroundings of the school.

If the school is in a large city, the observations would be confined to the different building material and to the rocks used for paving, street crossings, curbing, and roofing, together with a consideration of the qualities adapting them to these different uses. On the contrary, in the country the rocks would be studied in the fields as well; and for this end the places in the neighborhood where the study could be made, should be visited before the lesson is given. This visit and the subsequent report of the things seen would prove a useful exercise in showing the teacher the progress of his children in the power of accurate representation. For the walk to and from the place of observation, with the various things to be seen at the place, would offer such a variety of objects that the accurate record of the things studied and their separation from other objects of interest would show real power.

The following exercise would be a type of the sort of thing to do at any of the places which might be visited. We will suppose that this is the second ledge the pupils visit with their teacher, and that they have at school bits of rock which each one brought from the ledge they had previously visited.

The children have looked at the ledge, seen its height; and how far it extends uncovered by the soil; they have observed the color, the various cracks and seams,—their number and direction,—they have observed the mosses and other vegetation on any part of it, have seen the streams of water coming from the seams of rock, and any other things that the teacher may have suggested.

The teacher picks up two of the pieces of rock that form the talus of the ledge and says, "Look, I am going to try to break this piece of rock. Think how hard rock is and tell me whether you think I can do it? See how hard I try. No, I cannot break it; you were right."

"Now, I 'll try the other piece."

"Oh! it 's all crumbled up!" cry the children.

"Now you may all try to find pieces that you can break with your hands."

The children pick up pieces and try; and are sometimes right, but more often wrong.

"You are not very wise. I want you each to make two piles of rock, one of pieces you can break and the other of pieces you cannot break.

"There, that is good. Now look and see if there is any difference between the two kinds. You need not tell me now; but you may think, and when you get back to school you may show me that you know. But I want you each to select from the heap of stones one that you can break and one that you cannot.

"Now when you have looked well once more, we will all go back to school, and you shall show me there how well you have looked. Remember to look carefully at the shape of the top of the rock, and at the way the cracks go; for we shall want to draw this rock on our slates. It was in the drawing that we were not sure the day we went to the other ledge.

"One more good look, and we will go back to school."

On the return to the school, the children shut their eyes and see the rock, the teacher directing: — "Look at the height, the length, the line of the top, the color, the cracks, anything about the cracks, anything coming from the cracks, anything else you want to tell me about."

These things are now described in the order seen at the ledge and re-seen or represented at the teacher's words.

The bits of rock that were brought back from the first visit have been put on the desk with the two pieces that the children selected to bring home on this occasion.

"Oh! I had nearly forgotten that you were to show me that you saw a difference between the hard rock and the crumbling.

"Every one may hold up his piece of crumbling rock. I will walk round and see if you are right.

"Not a single mistake. Now you may tell me how you know the hard rock, that will not crumble."

The children generally agree that the lighter, fresher color is the great difference between the two kinds of rock.

The children then compare the rocks from the two places, using the hard, newly broken pieces from the ledge they have visited today. They find that one specimen is all of one color, while the other is speckled white and black; that one has smooth or smoothish sides, while the other is rough on all sides; that one is in thin, flat pieces while the other is in very irregular pieces.

The teacher has the children take the smooth, one-colored, thin, flat pieces, and has them breathe on these pieces and then smell of the rock where they have breathed. She asks the children what the smell is like. Many show that they know. But as some do not know, the children are asked to breathe on their slates in the same way and smell of them. They all know now that the rock smells like their slates; and the teacher tells them that they can always tell slate in this way. Then the name of the other rock, granite may be given to the children. Any other rocks would do as well.

The study of the kinds of soil should be managed in the same way as the rocks, by visits to the places where the different kinds are found and by the study of specimens of different kinds.

While at the place of observation, the color, the depth, varying fineness, depth to which various roots penetrate, and the vegetable growth as indicating by its luxuriance or sparseness the quality best for vegetation, together with the size and form of any rocks contained in the soil, should be observed and studied. On the return to the schoolroom the specimens of soil are to be examined and compared as the rocks were.

A set of boxes about eight inches long by four wide will be found of great service in the examination of specimens of all kinds. They need no covers. The height should be about three quarters of an inch.

The various uses of rocks and soils should be considered in general, and the use of each kind in particular.

The teacher should, by her own observation of places where the rocks are being blown or the soil dug away for any purpose, help the children through the year to form a habit of observing these things. The opportunities occur frequently; since ditches, wells, cellars, cuts for railroads, and various other causes often make it necessary to open the soil or the rocks.

EXERCISES IN PRONUNCIATION.

Promulgator, Pronunciation, Propitiate, Propitiatory, Proportion, Prorata, Prorogue, Prosaic, Protean, Protege, Protempore, Protest, Protestation, Provincial, Provocative, Provost, Prow, Prussian, Psalm, Psalmodist, Pseudo, Pshaw, Psyche, Puerile, Puissance, Pullman, Pumpkin, Punctilio, Purlieu, Purpose, Pursue, Pygmean, Pyrites.

METHODS IN DRAWING.[1]

BY MRS. MARY DANA HICKS.

Director of Prang's Normal Drawing Classes by Correspondence.

I.

WHAT is drawing? Let each reader answer, for the teaching of any subject should not be undertaken without earnest thought on that subject.

The replies are various — "Picture-making," "making working-drawings," "making plans and elevations," "making designs." But each of these replies is limited in its application and indicates a kind of drawing having a special purpose. The next step, therefore, will be to inquire more particularly, what the purposes are of these various drawings that have been mentioned.

"Picture-making." What is the object of a picture? To bring before the one who sees it, the *thought* or the conception that was in the mind of the artist.

"Making working-drawings." What is the object of a working-drawing? To give the workman an accurate *idea* of an object to be made.

"Plans and elevations." What is the object of architectural plans and elevations? To show to the builder the plan, that is, the *thought* of the architect.

"Making designs." What is the object of a drawing of ornament? To show to those who are to use it, the designer's *idea* of beauty in appropriate ornament.

In all these various drawings, then, there appears to be a common purpose, which is, to express thought. There is also one common element in all the thought expressed by the various kinds of drawings — that element is Form. Therefore, we may say that drawing is a means of expressing thought with regard to form, by lines or light and shade.

FORM STUDY.

But, the idea to be expressed must always precede its expression; hence, the study of form, — gaining ideas of form, — should always precede drawing, or if you choose so to put it, all drawing should be based on Form Study. Otherwise the drawing becomes mere meaningless, lifeless lines — just as language becomes mere words in the mouths

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[1] Copyright, 1889, by Mary Dana Hicks.

of those who do not understand what they utter. Moreover, the forms studied should be solid forms. Illustrations of form will not serve the purpose. In no subject is the educational maxim, From the concrete to the abstract, more important than in Form and in no subject is this maxim so constantly applied. The artist in his highest rendering of form constantly returns to the study of his models and of nature, and never outgrows this study.

BY TOUCH AND BY SIGHT.

In elementary Form Study, the forms studied should not only be visible, but also tangible and within reach. The ideas of form that we obtain through sight are largely composed of inferences that we have drawn from the combined experiences of sight and touch with regard to the same object. Sight alone cannot be trusted. We all know how the infant, with sight untrained as to distance, reaches out for the object that is far away, with the same confidence that he reaches to take that which is near. Repeated failures in attaining what he reaches for, teach him that the apparent nearness is an illusion and he learns to infer distance by associating the appearances of an object with the distance which he must travel to attain it.

Touch is a surer guide than sight in studying actual form. In regard to form, we have only to appeal to our own experience for abundant proof of our desire to examine by touch. We do not feel quite satisfied until we hold in our hands (if possible) the object which we admire. "Let me see it," generally means "Let me take it." Those things which can be touched and handled are more concrete, more real as objects of study than those which are just beyond reach and which can therefore, be seen only. Still farther, the mental image of an object becomes more complete when formed by the aid of two senses than when one alone is used.

TYPE-FORMS.

As in the acquirement of any knowledge, so in Form Study, a wise classification is the foundation upon which to build. Type-forms give the basis of this classification and through the use of these type-forms, all forms are studied. The sphere, cube, and cylinder, so well known through Froebel, should be studied first—the hemisphere, the square, prism, and right angled triangular prisms result from the division of the first; while later come the ellipsoid, the ovoid, the equilateral triangular prism; the cone, the pyramid, and the vase form (containing that wonderful element of beauty, the reversed curve) complete the list. These can be modified of course in many ways and other solids produced; but the foundation of all the modifications lies in the type-forms given.

The study of type-forms would be, however, very barren in result, if the study should be confined to the types. The type-forms serve as introductions to the countless variants from each type, to be seen around us, in nature and in objects of manufacture and of art. As each type-form is studied, some of its variants should also be studied; and no study of a type-form or of a variant should be considered complete until its form is expressed in its principal phases by making or by drawing as well as by language. How vast a field is thus opened by the few simple type-forms! Observation, Thought, Expression, those three great factors in mental growth, find here constant occupation. As the elements of form are mastered, new combinations and new variants are found in nature to be studied and expressed; creative ability conceives of new possibilities of form in new objects to accomplish new purposes and looks to drawing to express these possibilities; while new appreciations and revelations of beauty in nature and in art seek to be made manifest through the pencil and the brush. All this is implied when we speak of drawing as a means of expressing thought.

This understanding of drawing will, of necessity, lead us away from any desire to treat the subject as mere copying or mere mechanical execution and will lead us to consider drawing as one of the most important means not only of mental development, but also of transmitting thought—of translating ideas and conceptions that might otherwise remain unknown, into a language that can be understood by all, that of graphic illustration.

But large as the possibilities of this subject are, its elements lie within the reach of all. Form was once thought to be a subject only for sober geometricians, but Froebel has proved it to be also a play-ground for little children, wherein they may sport and grow strong. Following in the same line, Form Study and Drawing may be continued as a means of keen delight all through school life and its lessons will be learned with avidity.

The methods to be given in this series of articles are directed toward the promotion of drawing as a means of expressing thought. The essential to this end is Form Study, carefully directed through the study of type-forms.

The methods will be specially adapted for those to whom drawing is comparatively a new study, whether teachers or pupils.

Were I so tall to reach the pole,
  Or grasp the ocean in my span,
I must be measured by my soul;
  The mind 's the standard of the man.

CLAY: ITS EDUCATIONAL VALUE IN THEORY AND PRACTICE.

PART II. MODELLING OF GEOMETRIC FORMS. (CONT.)

BY MAY MACKINTOSH.

THE first solid given in the clay lesson, either in the Kindergarten or in the school, is the Sphere. (No. 1.) This form is chosen for its simplicity, and the great number of its related forms (spherical) to be found in the realms of Nature and of art.

NO. 1.

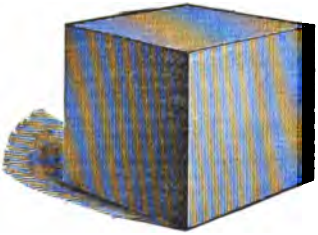
The first requisite is a perfect model of a sphere, — if possible one for each child, — the next, sufficient clay to make a copy *of equal size*. It is very necessary that there should be no loose work at first; and the model for each child or at least, each two children, gives each a chance to *feel* as well as *see* the object to be reproduced, thus opening two highways to the mind, and making the copy more nearly to resemble the original. Still, what is wonderfully accurate work for a child may not satisfy an enthusiastic but unexperienced teacher, and so it is well to keep in our remembrance the fact that the child's best conceptions are comparatively crude and unformed.

The best practical direction for rolling the sphere that I have heard was given by Mrs. Dimock, of Chicago, and was as follows: "Hold the clay on the *flat* palm of the left hand, and roll with the right, ***not moving the under hand, and not looking at the form till finished.***" This is to train the touch to do its full duty, for it is only by this sense that we can obtain a single perfect conception of a solid form, since we can only *see* a *part* of any solid at one time. Sight synthetizes the resulting mind-products of touch, and we think we see what we only remember.

The natural and artificial forms founded on the sphere are too numerous to mention. It is well to show the model a day or so before the clay lesson, and ask each child to bring something of the same shape from home. (Give no limitation as to *size* for the derived objects.) You will doubtless receive a collection of apples, balls, marbles, doorknobs, potatoes, and objects less spherical than these; and of course, some of these objects will illustrate the ellipsoids or ovoid, rather than sphere. Still, if the children cannot easily see the difference, on comparison with the model, don't worry about it, but let the true conception have its natural growth as the work with the other solids progresses.

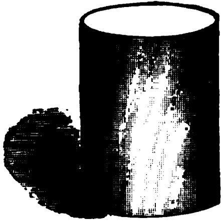
If desired, the teacher might here show the division of the sphere into hemispheres, (cutting with a thread) and also the embodied plane — the circle — by cutting as thin a slice of the sphere as practical. Later, the children will do this for themselves, and make from the hemisphere, a toadstool, open umbrella, half orange, etc., etc.; and from the embodied circle, — various leaves, flowers, and manufactured articles.

But before proceeding thus far, they must, according to Froebel's law, go from the sphere to its exact opposite, the Cube (No. 2.) The cube must bear a true relation to the sphere; that is to say, the height of the cube must be equal to the diameter of the sphere. Then these two solids can be compared, resulting in a clearer comprehension by the child of the characteristics of each. Read what W. W. Speer says and quotes on the subject of Comparison, in his recent admirable little book entitled "Lessons in Form," for a full exposition of the value of this method of teaching — no — of making the child teach himself!


NO. 2.

There are comparatively few cubic natural objects, but cubic toy safes, stoves, ink-bottles, and so on, we can find in plenty. To form the typical cube, the sphere is first modelled roughly, (so as not to dry the clay too much) and then, to counting, two taps are given on one side of the sphere. This produces one plane face, of rather irregular dimensions, it is true; but cubes are not finished in haste. Then the sphere is turned in exactly the opposite position, so that the one face is uppermost. The two taps are given on the side now undermost, making a pair of opposite faces. Then, holding by these two faces, but very lightly, a third face is made connecting the first two, by the same number of taps. Then the last made face is turned uppermost, and its opposite is made, making four. The fifth and sixth present no difficulty, as their places are indicated by the previous operations. To finish the cube, tap on every side, always remembering to work by opposites and you will soon be rewarded by moderately sharp edges and corners, if the clay is not too wet. It is *possible* to make a clay cube as perfect as a wooden one by working six or more hours; but this degree of perfection is not necessary for even the best educational results to be expected at the stage when clay is the best medium for the child's form-development.

The Half-Cube and embodied plane — the Square — can be shown by the teacher in this, and the succeeding solids; but, as in the case of the sphere, are not made and illustrated by the children until later. The showing by the teacher is to at once connect sphere and circle; cube and square, for the reason that two related facts can be remembered as easily as one.



NO. 3.

Next, as again following Froebel's law, will come the Cylinder, (No. 3) as the mediating solid, which partakes both of the nature of the sphere, in its curved, easily-moving surface, and of that of the cube, in its flat and stable circular ends, or faces. This cylinder must also be in true relation to the two contrasting solids which have preceded it; that is to say, it must have the same circular diameter as the sphere, and the same height as the cube.

LANGUAGE LESSONS AND EXERCISES.[1]

Second Series.

III.

BY L. W. RUSSELL, A. M.

TITLES AND ABBREVIATIONS.

IN the United States there are so few definite laws regulating the application of titles that much is left in the matter for the exercise of individual taste and judgment. The foundation for a just discrimination and correct practice in the use of allowable titles in this country, should be established, as far as practicable, in the language exercises of the schools. When the use of certain titles is fixed, as in the army, the navy, and in scholastic professions, the requisite knowledge is easily acquired; but in respect to social and certain official titles, observation and thoughtfulness are necessary to ensure correct practice in application. In cases where there is no guide but "unwritten law" and good sense, there must be more or less disagreement among educated persons; but it should always be our endeavor to narrow the disputed ground.

Without attempting to be exhaustive, we select a few titles for special notice.

ESQUIRE. — ESQ. HONORABLE. — HON.

The titles *Esquire* and *Honorable* both partake somewhat of social and of official character. Both are used by well meaning persons to compliment or honor the individuals to whom they are applied, regardless of any special fitness in them for such notice. The misapplication of these titles in such instances may subject those thus using them to the charge of flattery, ignorance, or at least, lack of good taste.

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[1] Copyright, 1888, by Eastern Educational Bureau.

The title *Esquire*, in the United States, has, in its official application, a quite limited use. Its use may be considered well established.—

(1) For members of the legal profession and Justices of Peace.

(2) For civil officers of the government below those properly titled *Honorable*.

(3) In most states, for members of the lower houses of the state legislatures.

In common life, without reference to office or profession, there is a wide difference of opinion and practice concerning the application of *Esquire*. In a general way, it takes the place of *Mr*. in letters and other written matter. It should not, however, be applied to a person of very low degree. To address an ignorant laborer as A—— B—— *Esq*., would be absurd. An individual very low morally should have no other title than that which distinguishes his sex and age.

The title *Esquire*, then, as a term of *social distinction*, should be applied to those only who have considerable prominence in society, for what they are or for what they have done. And even for such persons, educated people, and, perhaps a majority, sturdily reject the title, using instead, plain *Mr*. A good illustration, at hand, will show the difference in question:— Six Boston grammar school masters each recently addressed a letter to the same person upon the same matter. The person addressed is widely and favorably known for his sterling character and educational work. Three of these masters greet him as *Mr*.——; and three as —— ——, *Esq*. This example probably indicates quite nearly the current difference in practice shown by educated persons in the application of this title to men in good social and educational standing. This fact should be impressed upon pupils,—that, in cases of doubt, it is the safer way to employ *Mr*. than *Esq*. It is further necessary to caution pupils *not* to use both titles in one address.

It may be further remarked, that the tendency of present usage, if the writer observes correctly, is towards the disuse of *Esquire*, as a title of social standing.

Honorable. The term *Honorable*, applied as a title, is subjected to such corrupt uses, in common life, that its application is but a slender guaranty of that high standing which it should indicate. This is especially true in political relations. It is used to place men in a false light before the people; to raise them in appearance to an eminence which they have not reached; to cover up mediocrity and immorality. Sometimes, too, it is used by persons who have no worse motive in doing so than to be considered polite. The use of this title, then,—if that which is merely an adjective may be regarded as a title—should come from a just estimate of the position and character of the man to whom it is applied, and given only where it is clearly deserved.

The positions which justify the application of the title *Hon.*, in the United States, are:—

(1) Those of members of Congress, both senators and representatives.

(2) Members of the Cabinet.
(3) Heads of the Bureaus.
(4) Auditors of the Treasury.
(5) Clerks of the Senate and the House.
(6) Others of similar rank.

In the States, generally, officers below the Governor, including the Council and members of the State Senate, are addressed by the title *Hon.;* while the members of the House, or lower branch, take the title *Esq.*

Law judges and mayors of cities take the title and it is sometimes applied to the aldermen.

By courtesy it is given, and properly, to men who have done eminent service for the public, as inventors, managers of important works, in the development of the country's resources, and the like. Those who have won distinction in public education, as heads of State Boards, State Commissioners, etc., may properly receive this mark of appreciation and honor.

As this is not a title of office, and therefore not subject to be dropped with the termination of official service, it is properly retained through life although active life may have ceased.

EXERCISES.

Think of two or more lawyers, whom you know, and address them in letter form, thus:—

AMASA M. EATON, ESQ.
Dear Sir:

Or, for superscription:—

EDWARD D. BASSET, ESQ.,
49 Weybosset St.,
Providence, R. I.

Find the names of some of the members of the lower branch of your State Legislature, and address them with the appropriate title.

Note. If they have a higher title than *Esq.*, as Rev., Prof. or M. D., do not use *Esq.*

Learn of some person who is authorized to hold courts as *Justice of Peace*, and address him with the proper title.

Name any other officer who you think is entitled to *Esq.*, as revenue officers, high grade of government clerks, etc.

Name some men who may be deserving of the title *Esq.* simply from their prominence as individuals of public usefulness.

Name several classes of persons *not* entitled to the designation *Esq.*

Honorable. Write the names of the United States Senators now serving from your own state and address them by the proper title. Also, the same for the Representative to Congress from the district in which you live.

Address the Secretary of the Navy and other government officers entitled to *Hon.*

Name a state senator and address him properly.

Name and address some prominent person officially connected with state educational affairs; as, Hon. J. W. Dickinson.

Name and address some one entitled to honorable distinction for past services in education; as, Hon. Henry Barnard.

Bring forward some names of men concerning whom you are in doubt about their being entitled to the designation *Hon.*

COMPOSITION EXERCISE.

Write an account of some meeting or reception, based upon the following plan: —

1. What the meeting was and when and where held.
2. Imagine a large gathering and a number of noted persons seated upon the speaker's platform.
3. Tell who the chief speaker was and main points in his address. Give him an appropriate title. Also tell by whom the speaker was introduced, giving the proper title.
4. Suppose several short addresses to have been given by persons on the platform; let there be an *Hon.*, an *Esq.*, a Prof., a Rev., and an M. D. Give the principal point upon which each spoke.
5. Speak of taking a contribution, in the course of whichyou bring in the titles, *Mr.*, *Mrs.*, *Miss*, *Master*, *Col.* and *Capt.*

Give reasons orally, for the use of the titles in the composition.

— Teach high thought and amiable words,
And courtliness and the desire of fame,
And love of truth, and all that makes a man.

— *Tennyson.*

THE STUDY OF SYNONYMS.

BY RUTH E. MOWRY.

LONELY AND SOLITARY.

1. LONELY is derived from the Anglo-Saxon.
   SOLITARY is derived from the Latin.
2. Both refer to not having company.
3. LONELY conveys the idea of the forsaken and the low-spirited.
   SOLITARY denotes the absence of life or society, merely, and has nothing to do with the feelings.
   Places are SOLITARY when they are without inhabitants and LONELY when they produce the effects of isolation. In the same way a person may be LONELY in a crowd, but never SOLITARY.
4. Any place but home seemed to her very LONELY.
   "They wandered in the wilderness in a SOLITARY way."

FIRMNESS AND CONSTANCY.

1. Both are derived from the Latin.
2. Both refer to stability.
3. FIRMNESS relates to the will and prevents us from yielding.
   CONSTANCY relates to the affections and principles and prevents us from fluctuating.
4. "O Fortitude! divinely bright,
   O Virtue's child, and Man's delight;
   Descend an amicable guest,
   And with thy FIRMNESS steel my breast."
   "Why have not I this CONSTANCY of mind,
   Who have so many griefs to try its force."

NOVEL AND NEW.

1. NOVEL is derived from the Latin.
   NEW is derived from the Anglo-Saxon.
2. Both refer to recent, modern.
3. All things that are of recent occurrence are NEW, but only such as are out of the ordinary course are NOVEL.
4. "They put NEW wine into NEW bottles and both are preserved."
   "I must beg not to have it supposed that I am setting up any NOVEL pretensions for the honor of my own country."

EDITORIAL.

CHARACTER-BUILDING is the burning need of the hour.

THE need of repetition and frequent review is natural in dealing with young minds.

THE power of observation in children can be trained by questions and talks about the weather.

THE true character of the teacher is often shown to the pupils by things done and words uttered outside of the schoolhouse.

EXAMINATIONS should always be conducted so as to find out what the children know rather than what they do not know.

COMENIUS believed in the grouping system, now so frequently practised in teaching reading to primary children. He made his groups to consist of ten each.

SUPPLEMENTARY reading can be introduced into a school with little or no expense by the use of a single book, a few children being selected at a time to read to the rest.

THE English educators are moving with many in this country in demanding a training of the eye and hand, to begin in the Kindergarten and to go on with a proper amount of manual training in place of an exclusively bookish training.

BETTER attention is always received by calling upon number two, after number one has failed, without repeating the question, and so on to number ten, may be. A class soon learn a teacher's habit in this respect and govern themselves accordingly.

TEACHERS should give young pupils as much practice in subtraction and division as in addition and multiplication. In many schools the latter operations can be done much more quickly and correctly than the former. Is it so in your school?

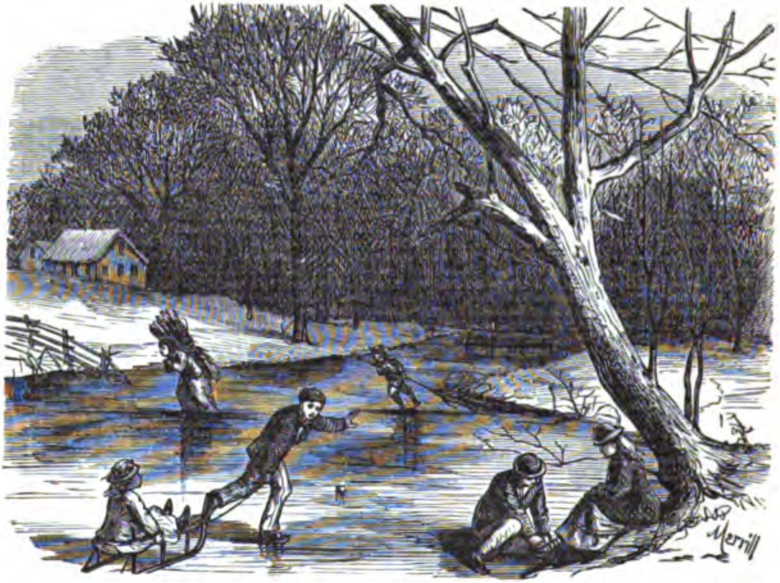
A TEACHER who sits at her desk from morning till night. fails to impress herself upon the class as a live and energetic instructor.

WHEN angry parents visit teachers to complain, it is always wise to allow them to talk as much as they please, but never before the pupils. In nine cases out of ten, they are very different persons after they have had their say, especially, if the teacher give them very quiet attention. After the venom has been thus thrown out, it is a good time for the teacher to express her side of the story, and she is likely to have a good listener. Above all things, let the teacher keep cool and self-possessed.

A PRETTY PICTURE.—It was in a primary school building. The writer entered unexpectedly. The teacher was sitting in her chair on the floor; there was no platform, as there never should be in a primary school. The eight little boys and girls stood about the teacher, each five or six years of age. The teacher had in her lap several toy animals. She handed one to Mary and asked for a story. Mary said:— "*I* have a sheep. The sheep has *four feet*, (pointing to the feet). The sheep has a *nose*. The sheep has *two eyes*. The sheep has *one tail*. The sheep has *wool* on its back. The sheep *eats* grass." John told a similar story about the lion. We forgot for the few moments that we were in a public school, it seemed like a pleasant home and the teacher a mother with her own children about her.

WHOEVER heard of a first-class school in which the teachers did not work together harmoniously? We have in mind at this writing three grammar schools principaled by men who have never seen the inside of college or normal school, which schools are models in many respects, and where harmony has been largely secured by the selection for assistants of *graduates* of these same schools. The young girl after leaving the normal school remembers the methods and ways of her early alma mater,—the grammar school,—and falls into them in her work almost unconsciously. If these methods are good, great advantages follow besides union of work. There is an economy in the time needed for the fresh recruit to learn the new ways. She knows the neighborhood, the parents, the little feelings and jealousies, the peculiarities of Deacon Smith's children and grandchildren, and the manners and customs of that part of the world. Such knowledge helps her in teaching and especially in government.

HAPPY HOURS.



Write a composition upon this picture. Observe the following points:—

1. Where is it? 2. What month? 3. What day of the week?
4. Tell about the schoolboys and girls.
5. What are those two persons carrying across the ice? 6. Who are they?
7. Tell all about it, and tell the whole story as graphically as you can.

The following will be found very entertaining and useful as songs, games, or recitations in Primary and Kindergarten schools:—

THE STORY OF THE "FORGET-ME-NOT."

When to flowers so beautiful
The Father gave a name,
Back came a little blue-eyed one,
All timidly it came;
And standing at the Father's feet
And gazing in His face,
It said, with a meek and timid voice,
Yet with a gentle grace:
"Dear Lord, the name thou gavest me,
Alas! I have forgot."
The Father kindly looked Him down
And said: "Forget-me-not."

COLOR SONG.

Oh, we the primary colors are,
Our names we soon will tell,
We've learned them all in our pleasant school,
And we know them very well.
One is blue, a true little girl,
And one is yellow, you see,
And one is red as the robin's breast,
Blue, yellow, and red, — one, two, three.

Oh, we the secondary colors are,
We think it is plain to be seen
That blue and yellow when blended well
Will make a beautiful green,
And orange will come, if you but try
The yellow and red to mix,
And purple is made of red and blue;
Did you ever hear of such tricks ?

Oh, we the tertiary colors are:
And if you would understand
How we are made you've only to watch
The motions of our pretty band.
We've citrine, russet, and olive, too,
Not quite so bright as the rest,
But we fill our places and always try
To do our very best.

Such jolly, happy and wise little folks
Perhaps you never did know,
So we will make a bow and say good-bye,
And away we'll cheerily go.
Ta, la, la, la, la, la, etc.

This little song makes a very pretty game to illustrate the composition of colors. The pupils all stand, close their eyes, and hold their hands so as to form a nest, while the teacher goes about among them, placing in their hands red, yellow, and blue balls. It is not necessary that every pupil should have a ball, but at least one of each color must be given out. Each child is to hold his hands so that the others will not see what color he has. As the song is sung, when they come to the line, "One is blue, a true little girl," all who hold blue balls, hold them high in the air so that all may see. At, "And one is yellow, you see," all who have yellow balls hold them up. At red, all the reds are held up. In the second stanza the blue balls and the yellow balls are held up at the same time, then the reds and yellows, and next the reds and blues. The third verse is a little more difficult to do, but can be played if the teacher desires. In the fourth stanza the pupils all march round the teacher, who is sitting at her desk, and carefully roll the balls over her shoulder and return to their seats. The song can be sung to the tune of "Oh, where, oh, where, is my little dog gone."

THE SUN IS IN THE MIDDLE.

Hi diddle, diddle,
The sun is in the middle,
And planets around him so grand,
Are swinging in space,
Held forever in place
By the zodiac girdle, or band.

Hi diddle, diddle,
The sun is in the mindle,
And Mercury is next to the sun,
While Venus so bright,
Seen at morning or night,
Comes second to join in the fun.

Hi diddle, diddle,
The sun is in the middle,
And third in the group is our Earth,
While Mars with his fire,
So warlike and dire,
Swings round to be counted fourth.

Hi diddle, diddle,
The sun is in the middle,
And Jupiter next after Mars,
And his four moons at night
Show the speed of the light,
Next, golden-ringed Saturn appears.

Hi diddle, diddle,
The sun is in the middle,
After Saturn comes Uranus far,
And his antics so queer,
Led astronomers near,
To old Neptune, who draws the last car.

The use of the following little song has been known to make a great difference in the punctuality of a school.

We are but minutes,
Little things,
But every one is furnished
With sixty wings,
With which we swiftly fly,
On our unseen track,
And not a minute ever comes back.

We are but minutes,
Use us well,
For every minute's use
Will one day tell.
Who uses well the minutes,
Has hours to use;
Who loses minutes,
Hours must lose.

THE CHEERFUL CARPENTER.

See the cheerful carpenter,
  How he works away;
Standing by his working bench
  He spends a busy day.
His hands so briskly move
  To make the board quite smooth,
And round and round with this good tool
  He bores a hole straight through.

He works from early morning
  Until the sun goes down.
He builds us all the houses
  Which dot the busy town.
He hammers and he saws,
  He chisels and he bores,
And rap, rap, rap, the nail he taps,
  Rap, rap, the nail he taps.

These words can be used for a game, if desired, and can be played while the pupils are at the seats, as a recreation, or after having a lesson upon the carpenter, his tools, etc. The first four lines in each stanza have no motions; the fifth and sixth lines in the first verse are illustrated by moving the hands over the desk as the carpenter does in planing; the next three lines by forming a circle of the thumb and fore finger of the left hand and putting the fore finger of the right hand through. The teacher will readily see what motions should accompany the second stanza. If it is desired to sing the song in connection with playing the game. it will not be difficult to fit some familiar music to the words.

EXAMINATION QUESTIONS.

Given at Bridgeport, Conn., December, 1888.

GEOGRAPHY — SIXTH GRADE.

1. When, where, and by whom was America discovered? For whom named, and why?

2. What and where are Mackenzie? St. Elias? Fundy? Yucatan and Mendocino?

3. Mention five products of Canada. Name and locate the capital and metropolis of Canada.

4. Describe the surface of the United States.

5. Of what is Congress composed? How are the members of each House elected?

6. Name the New England states, giving capital and metropolis of each.

7. When, where, and by whom, was the first settlement in New England made? Describe the Connecticut River.

8. In what does New York state excel? When, and by whom, was the first settlement of New York made?

9. Name and locate the capital and metropolis of the United States. Who was Henry Hudson, and what were his discoveries?

10. What state excels in the manufacture of maple sugar? In shipbuilding? In hardware? Which of the New England states were among the first thirteen?

ARITHMETIC — SIXTH GRADE.

1. Define a proper fraction. Write two improper fractions.

2. Reduce the two improper fractions you have written in answer to Question One to mixed numbers and tell how you did it.

3. Reduce $\frac{144}{1728}$ and $\frac{333}{666}$ to their lowest terms.

4. Tell how you will multiply the following examples and perform the work. $\frac{3}{8} \times \frac{4}{7}$; $\frac{7}{12} \times \frac{16}{21}$.

5. Reduce $\frac{3}{4}$ of $\frac{5}{8}$ of $\frac{9}{12} \times \frac{7}{21}$ to a simple fraction.

6. Give the rule for division of fractions, then perform the operations indicated in the following examples: $\frac{3}{8} \div \frac{4}{7}$; $\frac{7}{12} \div \frac{16}{21}$.

7. $\dfrac{8\frac{1}{2}}{2\frac{10}{12}}$.

8. What will two lbs. of salt cost at four cents per lb.? What will $9\frac{3}{8}$ lbs. of honey cost at $37\frac{1}{2}$c. per lb.?

9. If oranges are two cents each, how many can be bought for six cents? If beef at $12\frac{1}{2}$c. per lb. amounts to $87\frac{1}{2}$c., how many lbs. are bought?

10. $\frac{1}{2} + \frac{2}{3} + \frac{5}{6} = ?$ $\frac{5}{6} - \frac{2}{3} = ?$

LANGUAGE — SEVENTH GRADE.

1. Correct the following sentence: — the months of july and august were named after julius cæsar and augustus cæsar, and wednesday after woden a god of northern european mythology.

2. Write an answer to a letter from a friend accepting an invitation to make a short visit.

3. Write sentences containing the abbreviations of General, Doctor, Superintendent, Missouri, New Orleans.

4. Define language proper, subject, predicate, modifier, analysis.

5. Write a sentence containing a subject modified by *three* adjectives and then diagram.

6. Write a sentence containing a predicate modified by *two* adverbs and diagram.

7. Define a preposition. Write a sentence containing a prepositional phrase.

8. Change the italicized words into phrases in the following: *Why* are the *Canadians* and *Americans* disputing about fishing? Did the *Swiss* find the money *here?*

9. Define a compound sentence, and a compound predicate. Illustrate both in *one* sentence. Diagram the sentence you have just written.

10. Diagram — All forms of the lever and all the principal kinds of hinges are found in the body.

Punctuate the following: —

New Orleans or the Crescent City is a great cotton market.

Spring and summer autumn and winter rush by in quick succession.

BOOK NOTICES.

PATRIOTIC READER; OR, HUMAN LIBERTY DEVELOPED IN VERSE AND PROSE, from various ages, lands and races, with historical notes. By Henry B. Carrington, U. S. A., LL. D., author of "Battles of the American Revolution." Philadelphia: J. B. Lippincott Co. Price, $1.20.

This great work is full of the true spirit of patriotism, which should be the inheritance of every American citizen. If the youth in our public schools could be taught the true grounds of patriotic pride as here developed, it would be a grand preparation for the future of our country. The selections are upon such subjects as the following: The Patriotism of Our Founders; American Independence Developed; Memorial of Washington; Demands of the Present Age; Patriotic Sympathy with Struggling Peoples; Patriotic National Hymns, Songs and Odes; The Future of America Foreshadowed, etc., etc. The authors are from all ages and countries. Among them are such names as Homer, William Cullen Bryant, Rabbi Raphael Lasker, Brooke Herford, Socrates, Victor Hugo, William Shakespeare, Demosthenes, Edward Everett, Oliver Wendell Holmes, William Pitt, Bret Harte. John Greenleaf Whittier. Samuel Adams, William Cowper, George William Curtis, Henry Wadsworth Longfellow, George Bancroft. Daniel Webster, John Milton, Wendell Phillips, Lyman Beecher, Benjamin Franklin, Sir Walter Scott, John Boyle O'Reilly, Stephen Grover Cleveland, Bayard Taylor, Rouget DeLisle, Robert Burns, Felicia Dorothea Hemans, and hundred of others, more or less, well known writers. At the end of the book is given a biographical index of the authors whose works have contributed to this valuable reader. The book is admirable for both reading and declamation.

STORY CARDS FOR PRIMARY CLASSES. Twenty lessons in reading and twenty lessons in spelling. Supplementary to any primer. By Laura F. Armitage. Boston: Eastern Educational Bureau, 50 Bromfield Street. Price, 25 cents, by mail.

These elegant story cards are 5 x 8 inches, printed on both sides, each having a pretty picture and a story about it on one side, and ten words for spelling, in "print" and "script" type, with the figures, on the other. They are on colored Bristol board, the cards being yellow, blue, and pink. The color of the card is stated, as "This color is yellow," "This color is blue," etc. Every primary teacher will find these cards of great service in teaching the little ones the art of reading. They will largely increase the interest of the pupils in their lessons.

FAVORITE AUTHORS, FOR CHILDREN. By Mrs. Frances A. Humphrey. With twelve portraits. Chicago: The Inter-State Publishing Company. Pp. 126.

This is an attractive little book, giving a brief account for children of the life and writings of the leading poets and novelists of America. It will be found very useful for supplementary reading, and for the children's hour in grammar schools.

CHARMING SONGS FOR LITTLE WARBLERS. Being a collection of seventy-eight songs. By George Gill. Boston School Supply Company.

This capital little book of songs and tunes is selected with discrimination from the children's music of every land. The book is well printed and it will have a wide sale.

ORAL INSTRUCTION IN PRIMARY GEOGRAPHY. For Teachers. By Emma L. Pardon. Syracuse, N. Y.: C. W. Bardeen. 1888. Paper. Pp. 29.

NATURAL HISTORY CHARTS. The "Popular Educator" Company have published two carefully prepared charts on Natural History for the use of schools. These are 28 x 36, on highly calendered paper, with canvas back, rolled on sticks for wall use. One, the Silk-worm; Two, the Bee. Price by mail, $2.00 for each. The first chart has various diagrams representing the egg, larva, digestive system, respiratory system, muscular system, nervous system, the full-grown worm, the butterfly, etc. Number two shows the various systems of the bee, the cell construction, eggs, development of the bee, with full-size pictures of the male and female workers, etc. All of the diagrams and pictures in both charts are finely colored, and the whole forms the basis of a series of important lessons for the schools.

THE MIND OF THE CHILD. Part II. The Development of the Intellect. By W. Preyer; translated by H. W. Brown. New York: D. Appleton & Co. Pp. 317. Price, $1.50.

This new volume of the International Education Series, edited by Dr. William T. Harris, will be read with thoughtful interest by those who are concerned with the development of the child's intellect. It is the most complete attempt yet published to show in absolute detail how the child-mind grows. It is not easy reading, but extremely interesting.

VOICES OF CHILDREN. By W. H. Leib. Cloth. Introduction and teacher's price, 40 cents. Ginn & Co., Publishers. 1889.

This is a theoretical and practical guide for the training, protection, and preservation of children's voices in speaking, reading, and singing. A work of this kind has long been needed, and this one will be found to be neither too deep for the average student or too superficial to be of value. It contains many practical suggestions, and is based on sound philosophic principles of vocal culture.

TOM BROWN AT RUGBY. By An Old Boy (Thomas Hughes). Edited by Clara Weaver Robinson. Boston: Ginn & Co. 1889. Mailing price 60 cents.

This volume of the series entitled "Classics for Children," is on a par with the excellent volumes that have preceded it. It opens with a brief sketch of the life of Thomas Hughes, and then gives the account of life at Rugby under the wise direction of Doctor Arnold, as told by Mr. Hughes in his very valuable and interesting book "Tom Brown's School Days," with a few omissions from the original text for the better adaptation to the use of American school boys. The notes are explicit and sufficiently full, the type large and clear, and the paper good. This is a most excellent series.

A COURSE OF MINERALOGY, FOR YOUNG PEOPLE. First Grade, containing how to determine the Minerals of Collection No. 1, by Prof. G. Guttenberg, Erie, Pa. Price, including collection. $1.00.

This admirable little manual (one of the Agassiz Association Course,) is simple, practical, and clear. It is arranged to describe and direct investigations in determining the more common minerals. The accompanying collection is judiciously selected, carefully packed and labelled. The entire outfit is invaluable, because of its practical simplicity, and cannot fail to lead young people to an earnest love of nature. The author adds greatly to the value of this outfit by his willingness to correspond with any student of his manual, and explain any difficulties which may arise.

Common School Education,

DEVOTED TO THE ART OF INSTRUCTION.

Vol. III. APRIL, 1889. No. 4.

LETTER-WRITING AS A FINE ART.

BY WILLIAM M. THAYER.

A BEAUTIFUL letter, written by a high school girl, suggested our theme. Evidently she had studied the art of writing letters until she thoroughly understood the business. Punctuation, capitals, chirography, superscription, everything about the epistle was first-class. The most critical observer could find nothing to criticise adversely. We found upon inquiry that in her school instruction was given upon letter-writing. And why not? It is one of the most common things done; usually very poorly done; so poorly as to indicate that in schools generally this art is neglected. There are few efficient letter-writers. There would be many more if the subject received but occasional attention in our Grammar and High Schools.

It goes without saying that the ability to write an excellent letter, with beautiful penmanship, is a very graceful accomplishment. That so few possess this ability is not because the art is very difficult to acquire, but because it is undervalued. Little importance is attached to it. Scribbling will do very well in writing to a familiar friend. Youth of both sexes see no particular need of excellence in writing letters to each other, or even to their parents. They dash them off as if it were of the smallest consequence whether chirography or the King's English suffer or not. Were they writing to a professor, governor, or president, they might select their words, and wish they had given more attention to penmanship, as well as to spelling, which is a valuable acquisition when it is perfect. A good composer, penman, and speller will make a fine letter-writer. Application and persistent effort for a fractional part of the time which the expert pianist spent — six hours a day for twenty years — will qualify a young man or woman to write to the President or his wife. The commonness of letter-writing makes youth indifferent to it as an art to be acquired, when this fact ought to awaken their liveliest interest in it. What must be done so frequently, and with so many people, deserves to be well done. "What is worth doing at all is worth doing well," is just as true of correspondence as it is of any other business. The letter referred to in the beginning of this paper was more ornamental to the school girl who wrote it, than diamond earrings and necklace.

In letter-writing, the versatility of talents which the author possesses appears. However highly educated the correspondent may be, however large the acquisitions he or she has made, letter-writing calls into use the entire culture. The whole life discipline is poured into the epistle, so that the *character* of the writer is manifest. D'Israeli claims that chirography reveals the character of the author. Queen Elizabeth's penmanship was very fine, having been taught by Roger Ascham; and a French editor said of her chirography, in connection with that of her cousin, Mary Stuart, "Who would believe that these writings are of the same epoch? The first denotes asperity and ostentation; the second indicates simplicity, softness, and nobleness. The one is that of Elizabeth, Queen of England; the other that of her cousin, Mary Stuart. The difference of these two handwritings answers most evidently to that of their characters." He said, also, of Queen Anne, "She wrote a fair, round hand. That is the writing she had been taught by her master, probably without any alteration of manner naturally suggested by herself — the copying hand of a '*common character*.'" Take the hint about a "common character," and couple it with the remark of Hannah More, viz., "To read so as not to be understood, and to write so as not to be read, are among the minor immoralities," and the claims of good letter-writing are greatly magnified. Mrs. Sigourney wrote, "Elegant chirography and a clear epistolary style are accomplishments which every educated female should possess. Their indispensable requisites are neatness, the power of being easily pursued, or the graphical and grammatical correctness. Defects in either of these particulars are scarcely pardonable. You are aware that the handwriting is considered one of the talismans of character. Whether this test may be depended on or not, the fact that letters travel farther than the sound of the voice, or the sight of the countenance can follow, renders it desirable that they should convey no incorrect or unfavorable impression. The lesser niceties of folding, sealing, and superscription, are not beneath the notice of a lady;" and she might have added or gentleman. Mrs. Farrar wrote a small work on "Letter-writing," in which she said, "It is well to find out the best way of doing everything, since there is a pleasure in doing things *in the best way*, which those miss who think *any way* will do." Cicero, who was master of the Latin language as well as of eloquence, boasted that his epistles were as carefully constructed as his orations. And he said, also, "Whatever may be the subject of my letters, they still speak the language of conversation."

Teachers know just how to write, fold, and address a letter; why not impart this knowledge to the pupils? It can be done as a supplementary exercise without encroaching upon the time devoted to regular studies.

CLAY: ITS EDUCATIONAL VALUE IN THEORY AND PRACTICE.

PART III. MODELLING OF GEOMETRIC FORMS. (CONTINUED.)

BY MAY MACKINTOSH.

A CYLINDER of these dimensions will, when cut in the one direction, show the square face of the cube; and when cut in the other, the circular section of the sphere.

The illustrative objects may belong to any of the varieties of cylindrical bodies,—the greater variety the better. The safest rule is: Take the most perfect example of a given form first, and then the variations from the perfect type. These, in this case, may include a tree-trunk, a cheese, a serpent, some pitchers, some cups, and so on *ad libitum*.

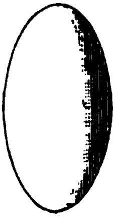
The cylinder is formed from the sphere by rolling back and forth in one direction, and when the curved surface is nearly completed, tapping at each end until the edges become sharp. If the circular faces are formed too soon, the rolling produces a cavity in the centres of both faces, which must be filled in with new clay.

So far, the order of presentation of the geometric solids is fixed; but after these three, circumstances may be allowed to guide in the choice of the work immediately succeeding. I would usually choose that one of the solids of which I had most illustrative objects to strew about the schoolroom, or the one which the children could most readily illustrate. Either the "Rectangular Parallelopipedon," (No. 4), which I usually call either "a brick" or an "oblong prism" with little children, or the Ellipsoids (Prolate, No. 5, and Oblate, No. 6), or perhaps the Ovoid (No. 7) would be equally good.

The first is of course developed from the cube, by patting more on four of the sides than the other two, and as it should be of the same height as the cylinder, the cube from which it is developed must be half the size of the first one.

NO. 4.

NO. 6.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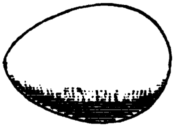
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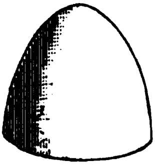
The two ellipsoids and the ovoid are made from spheres similar in size to the first one, and the slightest pressure, or rolling at one or both ends, will give whichever form is desired.

Next might come the conoid, (No. 8) from the ovoid; the conoid rolled between the palms to a sharp point gives the Cone, (No. 9) and the cone patted on either three or four sides gives respectively the Triangular, (No. 10) or Square Pyramid, (No. 11). This series brings in the idea of connection and logical sequence in which Froebel so delighted. Indeed, every one of the geometrical solids can be referred back to the sphere, though for convenience, it is sometimes best to begin directly with the cylinder, as when making the Equilateral Triangular Prism, (No. 12) the Right Isosceles Triangular Prism, (No. 13) and the Hexagonal Prism, (No. 14). The hexagonal prism of course is developed from the equilateral triangular one, by tapping gently on the three vertical lines forming its edges,—the three lines perpendicular to its base,—until six equal oblong faces are nearly formed. Then a tap or two on each end to make the two hexagonal faces true, and then the finishing touches.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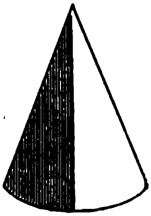
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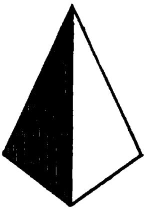
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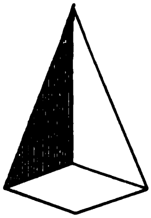

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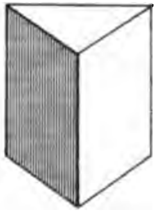

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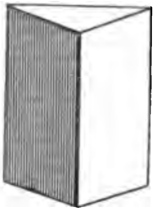
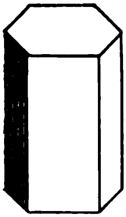


NO. 13.

The Square Prism, (No. 15) is of course a prolongation of the cube; and the Octagonal Prism, (No. 16) is developed from it as the hexagonal prism is developed from the equilateral triangular form.



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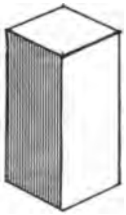

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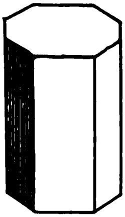

NO. 16.

Of the five regular polyhedrons, we have named two, the cube, or hexahedron, and the equilateral triangular pyramid, or tetrahedron. We *can* form the octahedron—of eight, and the icosahedron,—of twenty equilateral triangles, but clay is hardly the most suitable medium for such delicate manipulations as would be required. Besides these there is the dodecahedron, of twelve pentagons, equally difficult to make. And all of these more complicated solids can be made far more satisfactorily in cardboard, or by means of thin sticks joined by soaked peas, this last method only giving the skeleton-solid.

In actual practice, I fancy it is rare that teachers go through the whole series of forms, with their half-sections and planes. And it must be remembered that the child is steadily abstracting, from and by his concrete work, the power to image slightly different combinations on the same principle; and that the end of all this work with the hands is the gain of mental skill and power, and not the rote-making of a complete series of models.

Therefore, as soon as the child understands the underlying sequence and principles that govern the geometric solids, he is ready for more advanced work; and to my mind, there is then nothing better than the clay-cutting of plane geometric forms which will follow in the next lesson.

THE HISTORY OF OUR COUNTRY: HOW TO TEACH IT.[1]

BY WILLIAM A. MOWRY.

(*Second Series.*)

III.

THE CONTEST OF THE KINGS ENDED.

THIS Contest of the Kings was brought to a close a little after the middle of the last century. Spain had already begun to grow weaker, France had become decidedly arrogant, and Great Britain was calmly biding her time, when she should both weaken and humble her rival.

Observe from the map the slender limits of the British Colonies in 1750. Notice the gigantic opportunities which the control of the valleys of the two great rivers offer. The causes which brought on the "Old French War" were of ancient date. The two nations finally drew sword and each evidently hastened to throw away the scabbard. The principal scene of the contest was laid in North America. The French had taken a wise and kindly course towards several of the largest tribes of Indians. These became at once powerful and terrible allies of France. It was a fatal conflict. It meant life or death to these English Colonies. If France should succeed, there would no longer be English Colonies or English power in North America. But the British Government fully comprehended the gravity of the situation. It sent over a competent force, which together with the troops from the several colonies, should eventually overpower the French. This decisive blow was struck in the battle of Quebec. There the two opposing generals were slain, but there one nation was victorious and the other was vanquished. It was then that the English "proudly imperious, drunk with success, dictated humiliating terms to France, and *robbed her of all her possessions in North America.*"

She took all of Canada and Arcadia, and that great country between the Alleghanies and the Mississippi River. She allowed France to cede to Spain all between the great river and the "Stony Mountains," then called the *Province of Louisiana.* By this one fatal blow England drove France from North America. France retained thenceforth not a foot of ground upon this continent.

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[1] Copyright, 1888, by William A. Mowry.

This was nothing less than the supreme moment in the history of North America. In the treaty of Paris, in 1763, was decided what race should forever dominate the whole continent. It was then and there determined that this great country from the torrid gulf to the frozen seas and from the Atlantic to the Pacific should be controlled by the hardy, brave liberty-loving Anglo-Saxon. The effete races of Southern Europe were now to be swept off. It was then and there fixed that the English manners and customs should prevail here and not those of the Gallic races.

The question was now settled that the Roman jurisprudence which came around through Germany to England and from England to her American colonies should dominate this whole land. The English tongue and not the French was to begin that triumphal march which is now so rapidly circling the earth. This contest also settled the question of the prevailing religion of the continent.

Now observe the changed condition of the map. Draw a strong double line down the eastern bank of the Mississippi to the northern boundary of Florida, thence across to the Atlantic, and up that coast to Labrador. By placing the colored crayon flat upon the blackboard and drawing it gently over the whole country representing the now British possessions, show the broad limits of British control. In the same manner with the appropriate color, shade the Spanish countries. This will give quickly a graphic view of the new map of North America.

Let the teacher draw out from the class, step by step, these general facts and call attention to the greatness of the results. We may well imagine how quickly Count de Vergennes, one of the greatest diplomatists France ever produced, who at this time was the minister from his country to Constantinople, took in the situation and how readily he predicted the near future. "The English," said he, "have overshot the mark. Their next step will be to tax their American colonies to help defray the expenses of the war. The colonies will refuse to pay the taxes and will strike off all dependence upon the mother country." Show how these changes of the map made this result not only probable but inevitable, and call attention to the fact that between 1763 and the great "Declaration of Independence" was but thirteen years.

In this article, instead of indicating the manner in which the facts should be presented, it has been thought more desirable simply to group these outlines, and leave each teacher to develop them to the class in his own manner.

METHODS IN GEOGRAPHY.[1]

(*Second Series.*)

IV.

BY LARKIN DUNTON, LL. D., AND MISS L. T. MOSES.

NATURE LESSONS — SECOND YEAR.

The Land.

"WHY did n't we have our out-door lesson this morning, Miss Foster?" asked Lucy, one warm, pleasant day in May.

"Because, Lucy, some ladies are going to walk with us this afternoon, and we shall have our lesson then. Only you must work very hard, for we shall start at three o'clock, so that you can get home as early as usual."

"Where are we going, Miss Foster?" asked Tommy.

Miss Foster placed her finger on her lip and shook her head, and Tommy and all the others knew that they must work and ask no more questions. And work they did, for they knew that only those would go on the walk who did well.

Miss Foster rarely punished her children. But when a boy failed to do right and take care of himself, then he knew Miss Foster would take care of him; and he felt ashamed to be such a child. Of course, Miss Foster could not take a child on a walk, who needed special care, she would be too busy. The consequence was that each one took remarkably good care of himself, for a child in his second year's attendance at school.

At three o'clock precisely, the bell for work to stop struck, and the children folded their hands and waited for instructions. Miss Foster told them that three of her friends had kindly come to go with them. Then she asked the children what they could do for these ladies, and said she would like to have the pupils in the back row take care of one lady, whom she introduced to them; those in the second row take care of another; and those in the third row take care of another. The three front rows, she said, might come with her.

"When we get to the top of Rocky Hill, these are the things I want you to see: — All the hills, valleys, and plains; the streams or brooks, the rivers and the ponds. I take you to Rocky Hill, because from there you have a view of the valley on each side of you; and besides that, you can see the row of hills on one side, and the plain on the other side, over the lower hills beyond Stony Brook. Besides this you can see from Bald Rock, which we will climb before we go home, the streams that flow into Stony Brook, and those that flow into Bear River, and I think you can see what divides these two sets of streams.

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[1] Copyright, 1887, by Larkin Dunton, and Miss L. T. Moses.

"The first thing you are to do, when you get to the top of the hill, is to find the points of the compass. You may all think how you can do that; Mary may tell us."

"I shall find the sun; and, since it is afternoon, it will be in the west. Then I shall put my left hand to the west, and my right hand to east, then my face will be north, and my back south."

"That is so well told that we will all do just as Mary says. You may all tell me just as Mary did."

The children repeat, and then are directed to look, first to the west, then to the east; and after they have seen everything they care to see, and have seen it so well that they can make a picture of it all the next morning, they are to look to the north and the south, and then overhead.

The teacher tells them she does not want to talk much while on the hill, as there is quite a wind, and so they must remember just what to do. The children now repeat the order of their observations, not forgetting that they are to find the points of the compass first.

"I went up Rocky Hill again this morning, Miss Foster," said Fred the next morning, as he met her on his way to school.

"And so did I!" cried eight or ten more of the boys.

"Good morning, boys."

"Good morning, Miss Foster;" and the boys took off their hats and bowed, looking a little ashamed of their abruptness.

"So you wanted to make your picture better, Fred?"

"No, not exactly that, Miss Foster; but I wanted to see whether it was as beautiful in the morning as it was last night."

"And did you find it so, Fred?"

"It's hard to tell, Miss Foster; for this morning there was a hazy look over everything, which was really beautiful. But the sky could n't begin to be as beautiful as it was yesterday afternoon, with the beautiful blue, and those fleecy clouds. No, I don't think it was quite equal to yesterday, do you, George?"

None of the boys thought the morning as beautiful as the afternoon before. But they had now reached the schoolhouse, and Miss Foster went in, while the boys stayed out for a game, as Miss Foster had said she would be busy till school began.

"Now that we are ready for our nature work," said Miss Foster, about half an hour before school closed, "you may think of our work on the hill top yesterday, and tell me the first thing we did."

"We looked all about us for a few minutes, Miss Foster."

"That is true, Fred; but do you call that work? Harry may tell us."

"We looked for the sun; and when we had found it, we stretched our left hands out toward the west, our right hands towards the east, and our faces were to the north, and our back to the south."

"Good, Fred. I would like to have you all tell me softly what we did first."

The children repeated what they had done, using Fred's words. Then the teacher wrote on the board the words, *Points of the compass.* The children were then asked to think of the next thing they did, and Jenny was asked to tell.

"We looked toward the west, and saw the schoolhouse and all the other houses in the village. We saw that the houses were in the valley, that the river too was in the valley near the houses, and beyond were high hills."

The children agreed with the teacher that Jenny had described the western view very well; and the words *western view* were written on the board. Then after they had thought a moment, Mary was asked to tell what happened next.

"Next we looked to the east, and we saw a very narrow valley between us and some low hills, and we could look over the hills, and see a level piece of land that was so large we could not see the end of it; for the horizon shut off the view. The level land is the plain. Why do people call it 'The Plains,' Miss Foster?"

"I think it must be because farther off toward Brant there is a forest on the plain and so they call the fields and the forest together 'The Plains,' Mary."

The children now describe, from the mental pictures they have made, the scenes to the north and the south of the hill. After this has been done, the sky with its pure blue, and the clouds, varying in color from deep blue gray to purest white, are described. Their forms, sizes, positions, and movements are noted, and illustrated by motions of the hand, when these will help. These different topics are written on the board.

"Now that you have told me what you have seen, children, I want you to study some things with me. And first we will study the hills. You have told me that there were hills to the west, high hills you said. You said too, that there were low hills to the east, over which you looked to the plain; and that at the north there were many, many hills, while at the south the land seemed to sink down lower and lower for a long distance, to the shore where. far off, stretched the blue sea. Will you think for a moment about the height of the different hills? and I shall know without your raising hands when you are ready."

In a few moments the children were all sitting very straight, looking at their teacher, and Willie was asked to tell what he had thought about the height of the hills.

"The hill we stood on was a low hill, the very lowest of all except those to the east. I know these were lower, because we could see over them. The hills beyond the village were the highest of all."

"Very well done, Willie; but I wonder if the hill to the east is lower, because we can see over it."

Willie looked puzzled; but Fred said that he thought we could see over it, because it was lower.

The children thought hard for a little while, and then concluded that Fred was right. Jenny said that it made no difference to the hill whether we could see over it or not; it would be just as high if we were not alive.

"I think," said Willie, "that the reason we know it is lower, is because we can see over it."

"Think again about the place of the hills with regard to each other, children."

"They followed one another so that they looked like strings of hills," said Lucy.

"I should hardly have said strings of hills, Lucy."

"Lines of hills," said John.

"Lines will do better; but I like ranges of hills better still, John. So we will think of the ranges of hills. Does the land between the hills come down to the valley?"

"No! Miss Foster, not nearly so low, not half way down!"

"Look at the hills all around and tell me, if it is true of all, that the land between them does not slope to the valley."

"The slope of the ranges comes down to the valley; but not the slope of the separate hills," said Tom.

"Now, will you think of the slopes of the separate hills, the slopes between the hills, not the slopes into the valley?"

"The hills all slope toward the south with a steep slope, and toward the north with a gentle slope."

"How many think Clara is right?

"Think now of the hills to the north. I want you to think of their direction, and then tell me about the slopes between them."

"I think the lines come together somewhat at the north, and so the slopes between the hills are the same, steeper to the south and gentler to the north."

"Pretty well, James; but the first part did not tell very clearly what you thought. Emma may tell the same."

"The high hills to the west and the low ones to the east seem to meet at the north and make a wall to the valley there."

"Hugh may tell the same. You must do well, Hugh, to do better than Emma who has done very well."

"The ranges at the west and east seem to come nearer and nearer together, till at the north they shut in the valley."

"Now Julia may tell the whole story about the ranges and the slopes, also."

"The high range of hills at the west and the lower range at the east come nearer together at the north, so that the valley seems to be closed there. The slopes are the same, steep toward the south and gentle toward the north."

"Now look at the shape of the tops of the hills."

"They are rather round, Miss Foster."

"Look again at what grows on the hills."

"There are forests of different kinds of trees, and near the foot of some of them are farms with fields planted with different things. Where there are no trees or fields there are pastures for cows and sheep. In some places there are rocks, so bare that nothing grows on them, and in some places are large smoothish rocks like Bald Rock."

"What then do you think the hills are made of?"

"Rock and soil; rock at the bottom and soil on top."

In this way the valleys to the west and to the east, with their extent in different directions, their general form, their water courses — the one a river with a pond swelling its waters, the other a brook, — their fertility, and the use made of it by man, are to be studied. The plain extending as far as it can be seen, its level surface, its separate fields, and the abundance of the vegetation are to be studied.

So, too, the river, flowing constantly from the upper part of the valley to the lower part, is to be brought before the minds, together with the brooks that help to swell its waters. These facts in regard to its flow should be seen and told: — that it flows in the lowest part of the valley, that its course is winding, and that the windings are caused in part by the height of the bank which, in places, obstructs its course and causes it to flow around. The brook is to be studied as well as the river, adding the rocks and steeps of the bed, which are visible because of the less amount of water, and including the consequent falls and rapids.

The pond is seen to be in a hollow. Its form, the source of the water, if any stream feeds it, and the stream that carries the water to the river are described from the mental picture which the children have brought back from their visit to the hill.

In connection with these water-courses the pupils are directed to think of the rain falling on all the hills, and valleys, and to see where the streams that it forms, as it runs off the slopes, must go. They will at least see that in the valley on the west the water must go into the river, while on the east it must go into the brook. They will see, too, that the rain which falls on the sides of the hills beyond the valleys must run off down the further slopes and go into other water courses; and so the hill tops divide the streams flowing down their opposite slopes. Whether the slighter swells of land that divide the brooks flowing into the river can be seen and understood in their drainage will of course depend upon the vividness of the picture the pupils are able to reproduce.

When this has been done the children are directed to shut their eyes once more, and see the whole scene; and while their eyes are shut to think over what makes it so beautiful.

"Now open your eyes; and each may tell me two things that he thinks most beautiful."

"The river with the sun shining on the ripples and the pond," one answers.

"How many think as Daniel does? Who thinks of something even more beautiful? Susie may tell what she likes best."

"To me the green slopes of the hills at the west with the patches of farms and open pastures with the cows feeding in them, were most beautiful."

"I like the brook best with the white foam of the waters where they dash over the rocks."

"And I like the village in the valley, with the houses, and the church spires and our own new schoolhouse."

"There is nothing so beautiful to me as the blue sky with the clouds, the lovely, lovely white ones like heaps of snow, sailing slowly along, and those smaller ones moving so much faster. Oh how lovely it is!" said Nellie with a sigh.

Nearly all of the children agreed with one or the other of these answers; but still Frank kept his hand up, wanting to say something more. When called upon he said. "I don't like to take anything out of the beauty, Miss Foster; can't I say I like the whole best?"

"Indeed you can, Frank, and I think I agree with you; but I wanted you to think of each particular thing of beauty. There is one more thing that I enjoyed very much and that was the grateful freshness of the air. It seemed a pleasure to breathe up there in the breeze."

"But, Miss Foster, we could not say that; for when we shut our eyes you only told us to see, so we did not try to feel."

"That is right, Jenny; I ought to have told you to put yourself on the hill, when you shut your eyes, and to tell me everything about the scene and the day. But we still have a few minutes of our lesson time, and I want you to think of the hills, the valleys, the plain, the brook, the river, and the pond, and tell me which is the most useful to us. Think, too, of the sunshine and wind, and of the clouds.

The children were divided between the valleys, the plain, and the river. Miss Foster thinks that perhaps there is something quite as useful as these; at least she can't think of a world without the sun. In the discussion the children tell of all the uses that they can think of which each performs.

The lesson closes by each one telling what he is going to see more carefully the next time he goes to Rocky Hill.

VISITING SCHOOLS.

BY C. F. JOHNSON.

"THIS is the first time I have visited schools for ten years," she said, with some traces of pride in her tone, as if visiting schools was a sad waste of time. "What did you learn?" we asked. "Not much of value to me, except a new way of spelling *fetich*."

We wasted no further time in conversation, but a few days later visited *her* room, and found as we anticipated a woman faithful, hardworking, holding her pupils with a strong hand, and trying to *force* education into their little brains by the memory process alone. "Books closed," she said with energy. Every book was shut as by machinery. "Position!" The dear creatures became breathing statues. "John, what is a river?" "A river is a large stream of water flowing through the land." "The next, what is an island?" "An island is a body of land surrounded by water." The definitions were given very well by a majority of the class, and the teacher seemed happy. We asked permission at this point to ask a few questions, which request was readily granted.

Our first question was, "How many of you ever saw an island?" Half a dozen hands came up slowly; and one girl informed us she saw one in the geography. "How large are islands?" No one knew. "Of what are they made?" Several thought they were made of paper and ink; most of the class did not know. Only a few of the class had ever seen a river, and yet all lived within half a mile of a beautiful stream. The teacher was chagrined and after dismissing asked for advice. We suggested very mildly but firmly, "Visit schools; the best in the vicinity, and learn the new and better ways. Teach things instead of words."

PRACTICAL METHODS OF TEACHING SPELLING.[1]

(*Second Series.*)

IV.

BY ANNA B. BADLAM.

Rice Training School, Boston, Mass.

Lesson 46. The Union of OO. — *OO* long.
The Initial changes.

1

too *coo* *moo*

2

cool	*pool*	*soon*	*moon*	*hoop*	*room*	*hoot*
tool	*stool*	*noon*	*spoon*	*coop*	*broom*	*boot*

3. — (o = ōō).

do *to* *who* *move* *prove*

4. — The Final letter changes.

who *whose* *whom*

Lesson 47. Words used as Stems. — *OO* long.

1. — Name words.

tool	*pool*	*stool*	*noon*	*spoon*	*hoop*	*coop*
tools	*pools*	*stools*	*noons*	*spoons*	*hoops*	*coops*
room	*broom*	*boot*	*spool*	*root*	*roof*	*hoof*
rooms	*brooms*	*boots*	*spools*	*roots*	*roofs*	*hoofs*

2. — Quality words.

cool	*room*
cooler	*roomy*
coolest	———

3. — Time words.

soon *sooner*

4. — Action words. The prefix *UP*.

uproot *uproots* *uprooted* *uprooting*

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[1] Copyright, 1888, by Anna B. Badlam.

Lesson 48. (u = ōō).

rude	*rule*	*truth*	*cruel*
crude	*true*	*fruit*	*gruel*

Lesson 49. Words used as Stems. (u = ōō)

1.—Quality words.

rude	*ruder*	*rudest*	*rudely*
crude	———	———	*crudely*
true	———	———	† *truly*

† Change of spelling.

2.—Name words changed to quality words. (u = ōō).

truth	*truthful.*
fruit	*fruitful*

3.—Action words. (u = ōō).

rule	*rules*	*ruled*	*ruler*	*rulers*	† *ruling*

† Change of spelling.

Lesson 50. (ew = ōō). The Initial letter changes.

drew *grew* *threw* *brew* *crew*

Lesson 51. Words used as Stems.

brew	*brews*	*brewed*	*brewing*	*brewer*	*brewers*
crew	*crews*	———	———	———	———

Lesson 52. The Union of OO.—*OO* short.

The Initial letter changes.

1.

cook	*look*	*book*	*hook*	*foot*
took	*shook*	*nook*	*rook*	
hood	*stood*	*wood*	*wool*	

2.—ou = ŏŏ.

could *should* *would*

Lesson 53. Words used as Stems.—*OO* short.

1.—Name words and their forms.

cook	*book*	*nook*	*hook*	*rook*	*hood*	*wool*	*wood*	*foot*
cooks	*books*	*nooks*	*hooks*	*rooks*	*hoods*	*wools*	*woods*	*footing*

2.—Name words changed to Quality words. *OO* short.

wool	*wooly*		
wood	———	*woody*	*wooded*
hood	———	———	*hooded*

3.—Action words and their forms. *OO* short.

cook	*cooks*	*cooking*	*cooked*
look	*looks*	*looking*	*looked*
hook	*hooks*	*hooking*	*hooked*

Lesson 54. (u = oo short). The Final letter changes.

put	*puss*
pull	*push*

Lesson 55. The Initial letter changes.

pull	*push*
full	*bush*

Lesson 56. Words used as Stems.

1.—Action words.

put	*puts*	†*putting*	
pull	*pulls*	*pulling*	*pulled*
push	*pushes*	*pushing*	*pushed*

† Change of spelling.

2.—Name words and their forms.

puss	*pussy*	———	———
bush	*bushes*	———	———

3.—Name words changed to Quality words.

bush	*bushy*

Lesson 57. Union of AW.—(aw = a broad).

The Initial letter changes.

raw	*saw*	*flaw*	*paw*	*awl*	*crawl*
caw	*draw*	*gnaw*	*thaw*	*shawl*	*drawl*

Lesson 58. Words used as Stems.—(aw = a broad).

1.—Action words.

caw	*caws*	*cawed*	*cawing*	
draw	*draws*	———	*drawing*	*drawer*
gnaw	*gnaws*	*gnawed*	*gnawing*	*gnawer*
paw	*paws*	*pawed*	*pawing*	———
thaw	*thaws*	*thawed*	*thawing*	———
crawl	*crawls*	*crawled*	*crawling*	———
drawl	*drawls*	*drawled*	*drawling*	———

2.—Name words.

flaw	*paw*
flaws	*paws*

Lesson 59. The Initial letter changes. — (aw = a broad).

dawn *spawn* *pawn*
lawn *fawn* *hawk*

Lesson 60. Union of AU. — (au = a broad).
The Initial letter changes.

caught *taught* *naught* *fault* *vault*

Lesson 61. The Initial letter changes. — a (a broad).

all *ball* *stall* *wall*
tall *fall* *call* *small*

TEACHING TOO MANY THINGS.

BY M. G. MOORE.

THERE is a tendency in our day to attempt the teaching of far too many things in our schools. There seems to be a general impression that with the constant enlargement of the province of knowledge, the curriculum of the schools should be enlarged to correspond. But there is a decided limit to possibilities in this direction. So much of the knowledge that has been given to the world of late years has been the result of the study of specialists, that it is folly for a general student to attempt to master a tenth part of it. Much more absurd, then, is it to expect to teach this part or less in the common schools. The fact is, everything cannot be taught in the common schools, and more, it is not their mission to attempt it. Our schools should teach a few things well and thoroughly, and by doing this, arouse in the scholars a desire for more extended study. A very few subjects, well understood as far as the pupil has advanced in them, are much better than countless subjects merely touched upon. Don't try to teach your pupils too much, but teach everything that you do teach with the utmost thoroughness. Your duty is not simply to inform the young mind on this or that topic; you are obliged to endeavor to interest them in the attaining of knowledge, to develop and train their faculties, so that future study will not only be profitable but pleasant to them.

A MAN'S best friends are his ten fingers.

— *Robert Collyer.*

PRACTICAL BOTANY.[1]

BY PROF. W. WHITMAN BAILEY, B. P., BROWN UNIVERSITY.

IV.

WE now proceed to the study of Buds and Branches. These are always extremely interesting to any class. From their availability in winter they are especially well adapted to school work. It is desirable to have the pupils obtain them. Make the class thus a part of the teaching force. Excite emulation in gathering the best illustrative material. Ask the children to bring in boughs several feet in length, of horse-chestnut, hickory, elm, maple, buttonwood, magnolia, or beech. Of these trees the magnolia is available only at the South. Large-budded trees are best for our purpose.

The material being now on hand, give each pupil a branch and require him to write answers, the result of his own direct observation, to the following questions. Other points may of course be interpolated, as suggested by the wit of teacher or class. No master should rigorously follow any prescribed rule, or the special plan of any other. Experience will assist him to cull the best from all. Too precise a procedure dwarfs and hampers the teacher. Nor is it well to allow one's methods to become traditional. Pupils appreciate an independence which suggests reserved strength of resource.. The plan, then, should be a plastic one, moulded into form by circumstances. As a matter of fact we never write our series of questions twice alike. We doubt if we could do so if we desired. Special work, particular material, may so much affect the judgment of expediency.

Here is one set of such questions.

Schedule for Study of Stems and Branches.

1. Where do you find buds?
2. Are they limited to any special location?
3. What is the meaning of the crescentic scars beneath them?
4. On these scars, what is the significance of the dots?
5. Do the buds differ in size on the same stem?
6. Do you, in any case, notice more than one bud at a given location?
7. What is the meaning of the series of closely compacted rings here and there on the external stem?

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[1] Copyright, 1888, by Eastern Educational Bureau.

8. Where are the shortest internodes, i. e., spaces between buds?

9. Are the buds alternately or oppositely arranged?

10. Are any two sets exactly superposed? Which, if any?

11. Is there any marked swelling at the nodes?

12. What was the position of the leaves?

13. Why are they so arranged?

14. Take one bud, cut it vertically, examine the section, and draw. If it is a small bud enlarge the drawing.

15. Take another bud, and proceed in the same way with a transverse section.

16. Take still a third, or more if necessary, though pupils should be taught to economize their material, and note the changes in character of the parts as you approach the centre. Draw the bud thus displayed or laid open.

17. In the case of sticky buds, what is the purpose of the resinous varnish enveloping them?

18. When the contained leaves are clothed in wool, silk, or down, what is the object of this provision?

19. Note the little wart-like excresences (the *lenticels*) on the stem. See if they follow any arrangement or plan.

20. Draw a piece of branch, showing the shape and position of buds, scars, and rings.

21. As a review exercise, determine from all available data the class, Mono, Di, or Polycotyledonous, to which the plant belongs.

The above plan, or one similar, will bring out as the result of direct observation the normal and less usual positions of buds, their general situation as terminating stems or axillary to the leaves.

Question 2 refers to the possible accessory and adventitious buds that may occur, the first sometimes quite out of the axils, the second arising almost anywhere on stem, root, or in rarer cases (*Bryophyllum*) on leaves.

The scars beneath the buds somebody will soon perceive are the marks left by fallen leaves. The dots on these denote the strands or fibres which entered the leaf from the stem. For the tissues of leaves are continuous with the producing axis. Tell the class how early in the season there is the initial preparation for the eventual fall of the foliage.

The 5th question would be variously answered according to the particular specimen in hand. In the horse-chestnut the terminal bud is generally much the largest. In lilac, an interesting point, two divergent buds will be found near together, both of them axillary to leaves of last year. The terminal bud is crowded out by its more fortunate brethren. If, however, anything should destroy or check either of the others, the terminal bud is potential to develop. In the red maple, when there are several buds together, one usually contains the flowers. The buttonwood has the buds covered all summer by the hollow foot-stalks of the leaves.

Question 7 brings out the fact that, like leaves, bud-scales, which are indeed reduced or partially developed leaves, denote their former presence by a set of small rings or over-lapping arcs. You can often trace these far back on the trunk of trees like the Linden. It appears impossible for the plant to escape its reminiscences. Hence, by counting on a branch the number of places where these rings occur, one may know its age. The youngest internode, or rather the last developed at the end of the season, is apt to have a smoother, fresher look, and, indeed, often has a quite vivid color. (Instance, many willows and the red maple.)

The shortest internodes are always near the end of the stem. This point is often obscure to a beginner, from the fact that in winter the youngest internodes are as yet undeveloped. The bud is sessile upon the growth of last year. The actual growing point, surmounting a series of internodes, which we may compare to a closed spyglass, is in this bud.

Question 8 develops the fact that buds follow the arrangement of the leaves, and are spaced so as to have the best possible chance in the struggle for life.

Leaves and buds are correlated. Beneath each bud there is, or has been, a leaf. Conversely, above each leaf is either an actual bud, a potential one liable at any time to develop, or a branch, which is the expanded bud. This statement is the key to many otherwise perplexing points in our subsequent study. Position is the guide to the nature of any member of the plant system. The function of such members may be quite diverse at different times; their morphological significance is unchanged. A member considered by itself, and in regard to its work alone, is now known as an organ. Thus we have to view a leaf, say, in two aspects; the leaf as a member of a series of similar bodies, and the leaf as an organ doing important work. These two views are the morphological and the physiological.

Morphology treats of the study of forms in relation to certain types, with which they more or less closely agree. The divergence from the type may be wide. In the animal kingdom we find the fore-arm of vertebrates a useful illustration. If we take that of man as our type, while considering its capabilities of movement and the preëminence this gives us, as it is fair to do, we find strange departures from its plan, as we observe other animals. Yet, the anatomist will tell us that in all we find the same bones, though so variously modified. The wing of birds, and that of bats, the leg of the horse and deer, the fin of the whale, the digging fore-feet of the mole, may all be referred to the type, Or, to take an illustration from our own department, germane to the present matter: —

The "foliage leaf," the leaf doing the work of vegetation, may be regarded as a type. But we find bodies, from their position ascertained to be leaves, acting as reservoirs of food-materials, as protecting scales in buds and bulbs, as bracts, as parts of the flower, as tendrils, spines, pitchers and fly-traps. The study of such a range, or even a small part of it, bearing in mind the idea of comparison, would be a morphological study.

The flower-cluster is often found together with the leaves and leaf axis (the stem), in the dissected bud. It can be nicely seen in horse-chestnut and the Norway maple. In the first it resembles a minute head of cauliflower.

The questions in regard to the dissection of the bud are to exhibit its structure. Young pupils are always delighted with this work. The simple microscope or a hand lens must be employed.

The purpose of the varnish in many buds, as those of the horse-chestnut and balm-of-gilead, is to serve as a waterproof protection. The wool within is a non-conductor to prevent rapid alternations of heat and cold. Leaves which in the bud are clothed with hairs or silk, most commonly lose this garment after expansion.

The study of the "lenticels" or "freckles" would be too difficult for a primary class, but it is well to state that they are not purposeless markings, but are places which "serve for the exchange of gases between the interior and the exterior of the stem," (Goodale). We recall that in the striped maple (*Acer Pennsylvanicum*), they are extremely well pronounced.

In determining the class of the plant in hand, the pupil can make the cross-section of the stem, and can (under a lens) also note the folding of the minute leaves in the bud. He will also perceive in any of the trees here chosen for illustration, the easy separation of the bark.

We claim for an exercise like this, that it trains the eye to see, the hand to delineate, the mind to reason. Can there be any better argument for its utility in education?

NOTE. — Good books to consult in this connection, are: — "How Plants Grow," by Prof. Asa Gray; "Structural Botany," by Prof. Asa Gray; "Concerning a Few Common Plants," by Professor Goodale; "Outlines of Lessons in Botany," by Miss Newell; "Lessons in Elementary Botany," by Professor Oliver; "First and Second Books in Botany," by Miss Yeomans; "The New Botany," by Professor Beale; "A Year's Botany," by Kitchener; "A Primer of Botany," by J. D. Hooker.

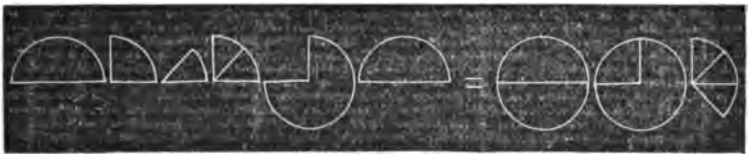
BUSY WORK FOR LITTLE ONES.

BY RUTH WENTWORTH.

LET them draw on their slates a house, putting in the panes of glass in the windows. Draw a rail fence with three or four rails. Draw a staff for music, putting in the bars to form the measures. Then let them put in the notes, taking care to put four or an equal number into each measure. When the drawings are finished, have the pupils place the result on their slates, in this way: twelve panes of glass in each of five windows equal sixty panes of glass in the house. Three rails high and six rails in length equal eighteen rails in the fence. Eleven measures, each containing five lines equals fifty-five lines. Eleven measures each containing four notes equals forty-four notes.

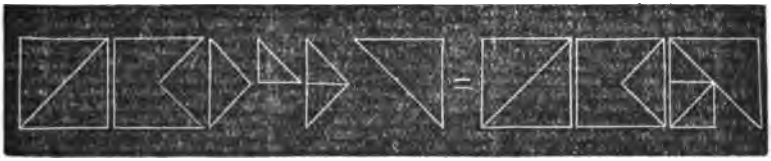
ANOTHER PLAN.

Have the pupils draw on their slates different fractions of a circle, of a square, a parallelogram, etc. Now let them find the result by putting the parts together, and also express the result in figures. For example.



1 2 3 3 2 1 1 2 3

$$\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{2}{8} + \frac{3}{4} + \frac{1}{2} = 2\frac{3}{8}$$



1 2 2 3 3 3 1 2 3

$$\frac{1}{2} + \frac{1}{2} + \frac{3}{4} + \frac{1}{4} + \frac{1}{8} + \frac{2}{8} + \frac{1}{2} = 2\frac{7}{8}$$

LANGUAGE LESSONS AND EXERCISES.[1]

BY L. W. RUSSELL, A. M.

(*Second Series.*)

IV.

ABBREVIATIONS AND TITLES (CONTINUED).

IT is not our purpose to pursue the subject of abbreviations and titles further than to fairly show their application to the demands of proper usage in ordinary forms of composition. As we have before intimated, in regard to abbreviations, the special point to be noticed is, in what kinds of composition, or, in what connections, it is appropriate to use them. The few illustrations and exercises already given briefly indicate what should guide us in choosing the full word or the abbreviation for it.

It should be noticed that, in encyclopædias, dictionaries, scientific textbooks, and various allied works, in which the same words frequently occur, and the economy of space is of prime importance, abbreviations are frequently, and properly used. But the same words or ideas abbreviated or symbolized in ordinary literary composition might be highly inappropriate. Violations of good taste in this matter are so common that we desire to emphasize the facts stated.

It should be a part of the "language" work of pupils to learn such current abbreviations as would cover the demands for ordinary composition. Further than this the practical abbreviated forms of expression should be learned as they are needed, as in the different lines of trade,—always being careful not to push the special symbols of your own workshop into ordinary composition. Generally speaking, abbreviations for the following should be learned:—

(a) For the days of the week and for the months.

(b) For the cardinal and secondary points of compass.

(c) For the name of our country and the names of the states and territories which compose it.—These and other geographical abbreviations are best learned as the sections which they designate are studied.

(d) For a few foreign countries and states frequently referred to.

(e) For such titles as are in common use in our own country.

(f) For such divisions of time and denominations of weight, distance, surface, volume, capacity, etc., as are in ordinary use.

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[1] Copyright, 1888, by Eastern Educational Bureau.

We give below a selected list of titles and words of salutation, — some abbreviated, some not — which every fairly educated boy or girl should understand and ***know how to use properly.***

OF COURTESY, RESPECT, AND HONOR.

Mister. — Mr.
Master. ——
Sir, Sirs. (Never "S's")
Gentlemen. (never "Gents.")
Messieurs. — Messrs.
Esquire, Esquires. — Esq., Esqs.
Honorable. — Hon.
Miss, Misses. ——
Madam. — Mad. (rarely)
Ladies. ——

SCHOLASTIC TITLES, AND OF DEGREE.

Doctor. — Dr.
Doctor of Divinity. — D. D.
Doctor of Laws. — LL. D.
Doctor of Medicine. — M. D.
Bachelor of Arts. — B. A., or A. B.
Master of Arts. — M. A., or A. M.
Professor. — Prof.
Doctor of Philosophy. — Ph. D.

CIVIL SERVICE.

President. — Pres.
Vice President. — V. Pres.
Secretary. — Sec.
Treasurer — Treas.
Honorable. — Hon.
Governor. — Gov.
Justice. — Jus.
Chief Justice. — C. J.

The military titles, from the lowest grades to the highest, should be known, properly abbreviated, and applied in sentences.

The abbreviations for associations often referred to should also be known, and the proper connection for using the abbreviations rather than the full words, should be shown.

The names of several prominent societies and associations are so long and cumbersome, when written out in full, that, as a common practice, they are always abbreviated. Every pupil should know these, and how to use them. A few examples follow, and others of general or local use will readily occur to the teacher: —

Y. M. C. A. — Young Men's Christian Association.

S. P. C. A. — Society for the Prevention of Cruelty to Animals.

W. C. T. U. — Women's Christian Temperance Union.

I. O. K. P. — Independent Order of the Knights of Pythias.

N. Y. & N. E. R. R. Co. — New York and New England Rail Road Company.

G. A. R. — Grand Army of the Republic.

PROFESSOR. — PROF.

The title "Professor" belongs to many persons by virtue of their connection with colleges, universities, and other institutions of learning of high order, and having a regular "faculty," and to other "specialists," who have taken high rank.

Its assumption by mountebanks, hawkers, swordsmen, athletes, and performers of various sorts, for the sake of attracting notice and getting money, has much interfered with its proper significance. It is also much too common, in some parts of our country, to apply the title "Professor" to prominent teachers, both in public and private schools, especially in "Commercial Colleges." The title is legitimately employed in the following cases: —

(a) For any person duly elected to a "chair" or professorship in any educational institution governed by laws based upon a regular charter, such institution conferring degrees in accordance therewith.

(b) By courtesy, it may be given to noted specialists in various departments of science, whether such persons are engaged in practical instruction, or not.

Single Letters, capital or small, used as abbreviations, should usually correspond with the beginning of the words as they would be when written in full in the same connections. But words and phrases ordinarily written in small letters are sometimes properly abbreviated by use of capitals, for prominent display; as, "cash on delivery," — C. O. D.; street, — St.; *ante meridian* (before noon) A. M.

Scholastic degrees as applied in titular form, should always be abbreviated; as, —— —— A. B.; —— —— A. M.; —— —— D. D.; —— —— Ph. D.

In addressing officers of high rank their titles should not be abbreviated; as,

To the President,
Executive Mansion,
Washington,
D. C.

To His Excellency,
The Governor,
Boston.

N. B., — That the attitude of courteous respect which one should show in addressing a titled person of high rank is seen not only in the form of words used, but in their arrangement upon paper; and that abbreviations which would be perfectly appropriate in way of ordinary comment would be highly discourteous in direct address.

For exercises for the pupils, let the teacher take one or two titles for a lesson, show the conditions which call for their use, and require the pupils to write paragraphs bringing in certain names with appropriate titles. Also describe the rank, profession, or occupation of certain persons, and require the proper titles to be given to them.

As suggested in a previous number, keep this matter in hand during the whole language course. A judicious employment of titles and abbreviations comes gradually, with the pupils' general growth in knowledge, and is especially dependent upon habits of observation.

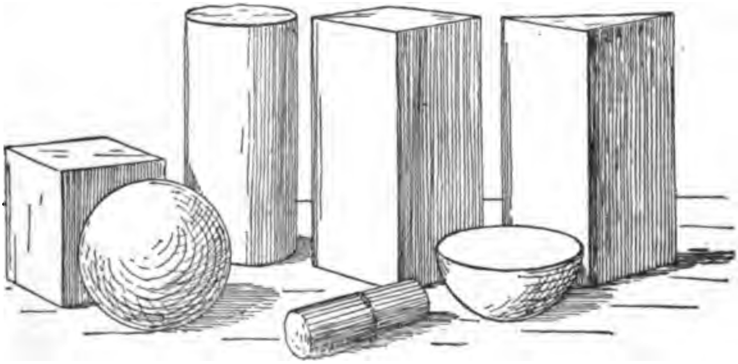
METHODS IN DRAWING.[1]

BY MRS. MARY DANA HICKS.

Director of Prang's Normal Drawing Classes by Correspondence.

II.

ATTENTION will now be given especially to the method of directing Form Study. The simple type-forms to be studied are here illustrated.



The group given above shows the solids which should first be presented — the sphere, cube, and cylinder, the hemisphere, square and right-angled triangular prisms.

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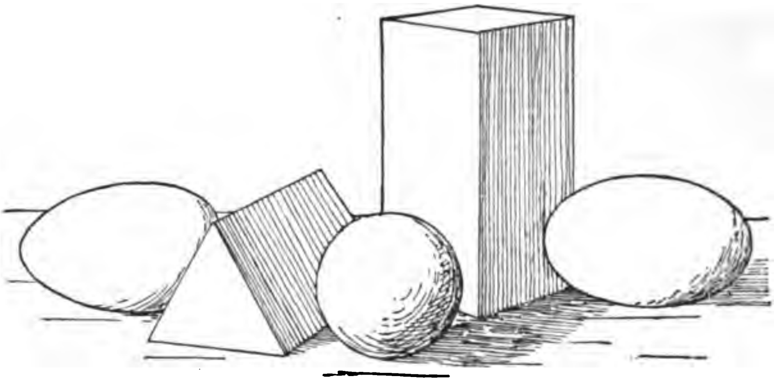
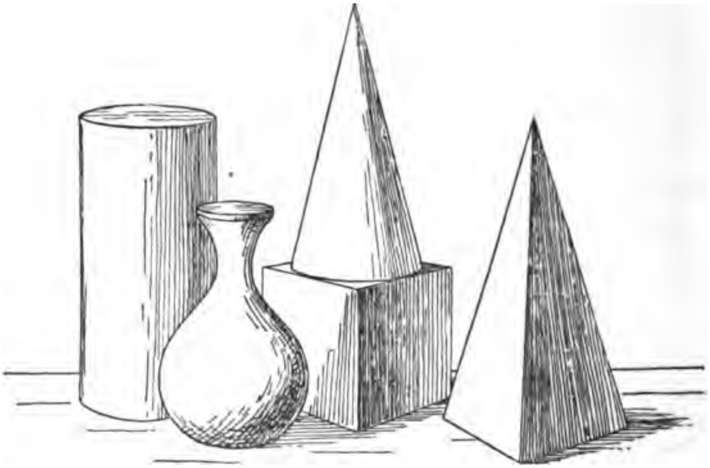
[1] Copyright, 1889, by Mary Dana Hicks.

These solids should occupy the first year's Primary work in Form Study.



The two succeeding groups introduce the six solids, the ellipsoid, ovoid and equilateral triangular prism, the cone, pyramid and vase-form.



These solids should occupy the second year's Primary work in Form Study.

FORM MODELS NECESSARY.

For the purposes of Form Study, models of these type-forms are necessary. Such models should not only be carefully and accurately made so that they may give true ideas of the forms, but they should also have a definite standard of size, based on a simple unit of measurement, and should have a due regard to pleasing proportion and to beauty of form. It would be a great mistake to choose models merely with regard to geometric accuracy. These very simple models should also contain in themselves the elements of beauty, which may serve as foundations for the cultivation of æsthetic taste.

Every student of Form, whether child or adult should possess such models. They are the books, from which Form is to be studied and learned. The models for little children should be one inch in diameter, this definite measurement serving as a standard by which to estimate the size of other objects, and the size being suited to the little hands for which the models are intended. Those for adults should be, in this elementary study, two inches in diameter, a larger size would prevent the benefits to be derived from a ready and pleasant handling of the models.

METHODS OF STUDY.

Every student of Form, old or young, should learn through actual experience, which should be, not only the experience of seeing the models, but also that of handling them. The models should first be studied as wholes, then as to details of form. The method of study should always be that of comparison and contrast; therefore, in studying any model as a whole, it should always be contrasted with another type-form, the latter being, if possible, a form already known.

Thus it will be noted in the second illustration that the new solids, the ellipsoid, ovoid, and equi. tri. prism are presented with the sphere and square prism already known; and in the third illustration that the new solids, the cone, pyramid and vase-form are presented with the cylinder and cube already known.

OBSERVATION LEADING TO THOUGHT.

To illustrate the method of study, two simple type-forms, the sphere and cube, may be used.

Studying the sphere and cube by touch and by sight, observe them with regard to their feeling, motion, rest, measurement, position, and appearance. Note that of these six observations, the first is to be made by the hand alone, the next four by hand and eye combined, while the last is to be made by the eye alone. Thus the touch leads in observation and educates the eye.

FIRST STAGE OF OBSERVATION.

A form is more clearly apprehended by contrast with another form.

Observe by grasping.

The sphere feels round and smooth. The cube feels sharp and pointed.

Observe by moving.

The sphere will roll. The cube will slide.

Observe by placing at rest.

The sphere will stand on any part. The cube will stand only on a flat part; if placed on edge or corner, it will not stand.

Thus while the cube is more diverse as to number of parts than the sphere, it is more limited both in rest and in motion.

EXPRESSION BY MODELING.

While these observations are being made, images of the sphere and cube are beginning to assume definite form in the minds of the observers and some means of expressing what is in the mind should be afforded. As "making" is the most complete mode of expressing an idea of form, it is of especial value in this elementary stage of Form Study. As plastic clay is the best material with which to express an idea of form quickly, modeling in clay should be introduced very early in the study. After the sphere and cube have been modeled in clay, observation of the type-forms should be again taken up and pursued farther.

*SECOND STAGE OF OBSERVATION.

Observe by comparing.

The sphere measures the same through in every direction. The cube measures the same in three directions, from front to back, from left to right, from top to bottom.

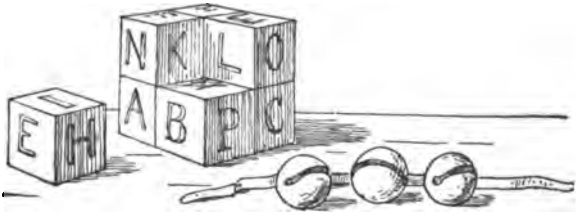
Observe by placing in positions of rest.

The sphere has but one position, always a round part toward you. The cube can stand with a flat part toward you or with an edge toward you.

Observe by seeing.

One half of the sphere can always be seen, the half that is away from you cannot be seen. The cube may be so held or placed that one half can be seen, the half that is away from you cannot be seen. The cube can also be so held or placed that all of one half cannot be seen.

Thus while the sphere always presents the same aspect, the cube presents different aspects.



OBJECTS LIKE THE TYPE-FORMS.

What can you see or remember that is like the sphere? This is a question that must not be neglected, as in the consideration of this sim-

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*This order of arrangement is not given as absolute but as suggestive of the general plan.

ple question, lies the introduction to the whole world of form about us, from the toys of the child to the celestial orbs.

Here is a beginning for a list of objects like the sphere: Apples, balls, oranges, peaches, marbles, globes, cabbages, buttons, bubbles, allspice, shot, beads, cherries, bullets, cannon-balls, the earth.

And here is a beginning for a list of objects like a cube: Boxes, stoves, baskets, dice, caramels, inkstands, lumps of sugar, clocks, paper-weights, hat-trunks.

IMPRESSION DEEPENED THROUGH EXPRESSION.

Having found objects like the sphere and cube, one of the simplest objects should be taken for special study, should be compared with its type-form, and the similarities to, and differences from, the type-form should be discovered. The idea of the form of an object having thus been obtained, it should not be allowed to remain half impressed on the mind; it should be expressed by modeling in clay as well as by descriptive language and thus become more clearly formed as well as more deeply impressed. Be careful always to strengthen an impression of form through expression.

THIRD STAGE OF OBSERVATION.

Observe by placing.

The sphere will rest only on a level object; it will not rest at all on an inclined object. The sphere likes to move. The cube will rest either on a level or an inclined object; except if the object be much inclined, the cube will slide or it will tumble. The cube likes to stand still. (The sphere is mobile, it is a symbol of motion; the cube is firm, it is a symbol of rest.)

Observe by building.

The sphere will rest on the cube, (if level). The cube will not rest on the sphere.

Observe by arranging.

The spheres in a row touching, — the cubes in a row touching; the spheres touch but at one point, the cubes touch at many points. The sphere and cube touching — they touch at but one point.

EXPRESSION BY BUILDING AND ARRANGING.

The building and arrangement should now be carried on to express some form that has been noticed or that may be created; here arises an opportunity for creative ability. In this work with this simple material children will surpass adults. Children see more by masses and less by details than adults; children will accept general similarities and will not be troubled by those differences of detail which often prevent adults from recognizing general resemblances. The sphere on the centre of the top of a cube, the child quickly calls a baby, a doll; the sphere near the edge of the cube is a dog, or a cat, or a cow, or a horse, as the child may be more familiar with one or another animal. Notice how the child grasps the general contrast between the head and the trunk and is satisfied.

A sphere is arranged at the head of a row of cubes, as a train of cars with an engine in front — a sphere behind a cube going down an inclined plane, is a boy pushing a cart; a sphere in front of a cube going down an inclined plane, is a horse drawing a wagon. Notice here how the child recognizes the sphere as a symbol of motion, pulling, pushing, or drawing.

A line of spheres arranged in a row pleases by its rhythm and here is the very simple beginning of beauty in arrangement.

DETAILS OF FORM.

By the same method, that of discovery by observation, leading to thought and expression, other form-models and details of form should be studied — surface and faces should be learned as *round* from the sphere, *plane* from the cube, and *curved* from the cylinder; faces and shapes should be known as *circular*, *square*, *oblong*, etc.; edges and profiles should be studied as *curved* and *straight;* faces and edges should be distinguished as *vertical*, *horizontal*, and *oblique*, and as *parallel*, *perpendicular* and *oblique* to each other; corners should be recognized as *outside*, *inside*, *face;* angles should be classified as *right*, *acute* and *obtuse*.

Figures should be drawn at this stage only as pictures of faces and outlines of models or objects; and lines should be drawn only as pictures of edges.

Thus at every step the form-study should be conducted so that the student will feel that form is an intrinsic quality of objects, to be studied first from objects.*

*Those who are interested can find this method worked out step by step in a little book, called "The Use of Models," published by The Prang Educational Company.

THAT THAT.

Now *that* is a word that may often be joined,
For that *that* may be doubled is plain to the mind;
And that that *that* is as plain to the view,
As that that *that* that we used is rightly used too;
And that that *that* that that line has in it is right,
In accordance with grammar is plain to our sight.

THE STUDY OF SYNONYMS.

BY RUTH E. MOWRY.

REST AND REPOSE.

1. REST is derived from the Anglo-Saxon.
   REPOSE is derived from the Latin.
2. Both refer to quietness.
3. REST is cessation from exertion or labor.
   REPOSE is a form of RESTING which gives relief and refreshment. REST may be taken in a standing position, REPOSE is generally taken in a reclining position.
4. "I will not REST until I have run some ground."
   "The dear REPOSE for limbs with travel tired."

MOTHERLY AND MATERNAL.

1. MOTHERLY is derived from the Anglo Saxon, MATERNAL from the Latin.
2. Both mean pertaining to a mother.
3. MATERNAL is confined to the feelings of a mother toward her own children, while MOTHERLY has a secondary sense denoting care like that of a mother for her children.
4. "When I see the MOTHERLY airs of my little daughters, I cannot but flatter myself that their husbands and children will be happy in the possession of such wives and mothers."
   Her MATERNAL joy increased with every thought of her son.

IMPOSTOR AND DECEIVER.

1. Both are derived from the Latin.
2. Both mean a cheat.
3. An IMPOSTOR is a deceiver of the public, while a DECEIVER might be of the public or of a private individual. Any one who deceives by word or deed is a DECEIVER. An IMPOSTOR assumes a false appearance, and impersonates that which he is not.
4. "The fraudulent IMPOSTOR foul."
   "Hence with thy brewed enchantment, foul DECEIVER.
   Hast thou betrwy'd my credulous innocence,
   With visor'd falshood and base forgery?"

EDITORIAL.

THE best way to teach a boy to spell is to buy him a printing-press or a typewriter.

MR. COOK says we should teach in the schools "a religiously grounded morality."

SUPERVISOR METCALF wisely advocates the use of supplementary reading books for *silent* reading, each child being called upon in turn to tell what he has read.

A WISE teacher will be careful not to make commands which can not be readily enforced, lest her own influence be sadly impaired and the children be led to practise acts of duplicity.

IN New Haven and some other places they have tried with success having the exhibition in April rather than in June, thus avoiding the hot weather, and thus having the schools close in quiet study on the same day.

THERE are several disadvantages in the free textbooks system. One is the danger of spreading skin and similar diseases. Another is the depriving of the children of the books in their homes after they leave school.

HAPPY the children in that town who have been emancipated from those heavy shackles of learning called "*slate* and *pencil*," and furnished by the wisely economical school committee with *paper* and *pencil*, because one year or more of time has been saved in their education.

IN winter time the windows of the room should not be open to their full capacity even for physical exercises, because the few children standing nearest the windows are dangerously exposed to the frigid air, and because the temperature of the room is lowered too much for health. This caution would not have been penned, if we had not recently seen sixty young children thus exposed and half of them set to coughing by the thoughtlessness of their teacher.

IF the principal or superintendent does not take visitors to your room or your school, but to other rooms and other schools, you can be reasonably sure he does not consider your work satisfactory, and if you are wise, you will try to improve your teaching in the needed direction.

WE visited a primary school not long ago where great freedom of behavior was allowed, and yet every child seemed to possess the power to attend to himself largely, to keep at work, to desire to learn, and not to meddle with other children or play in the schoolroom. Were not those conditions the acme of discipline?

THE child is born to learn as much as to breathe. He does not care to learn every hour of his youthful existence. The teacher's duty is to help and guide him in learning the good and useful rather than the bad and foolish. This she can always accomplish by making true wisdom seem attractive. To make it attractive she must understand the laws of the child mind. These are learned from observation of children and from the study of psychology. What is commonly called "experience in teaching," is the result of a better understanding of children's minds and bodies.

"MASTER JOHN DAVIS shows little interest in his studies. What can I do to remedy the matter?"

First, examine your own work as teacher and see if your instruction has been full of animation and real energy. Have you explained the lessons with enthusiasm and a spirit showing happiness in the work? Have you after careful preparation shown Master Davis a new and enlarged view of the subject, and called his attention by picture, chart, or sketch, to facts not given in the little textbook?

Second, talk with Master Davis after school, in a confidential way, and draw out his reason for the lack of interest. Perhaps, he is reading one or two silly stories every week, or learning to smoke, or going with some bad boys. Give him a little heartfelt advice.

Third, if a change for the better does not soon appear, send for his father and explain the whole matter to him in a very kind and sympathetic manner. In nine cases out of ten, he will be thankful for your interest and render all needed help, for very likely he has known nothing about the boy's actions at school. In the tenth case, some mild and judicious punishment may be necessary to quicken the sluggish intellect. In a few cases, perhaps in Master Davis' case, it may be necessary to see the father a second time, or to send him monthly reports of progress.

HAPPY HOURS.

AN HOUR AMONG THE VESSELS: A DIALOGUE.

Mary: It is all very fine to hear you exclaim "Oh! there is a brig," or "a sloop!" when we come in sight of some vessel, Gertrude, but it is rather mortifying to us poor benighted creatures to be obliged to have the knowledge of our ignorance thrust upon us.

Gertrude: I will gladly tell you all I know about the different kinds of vessels. It is very simple.

Greta: I fear you will find it a difficult thing to make me understand and remember the different names.

Nora: I do not even know whether they are all ships or vessels, and am so afraid of showing my ignorance that I either keep still upon the subject or talk of "the boats." Enlighten us, Gertrude, please.

Gertrude: Vessel is the general term used for all crafts that float upon the water. A Ship is a particular kind of vessel. To make the subject perfectly clear I shall have to tell you the difference between a square-rigged and a schooner-rigged vessel, unless you know this distinction.

Ethel: I know a square-rigged mast when I see it. It generally has three or four sails on the one mast, and the sails are at right angles with the mast.

Gertrude: Yes; the sails of a square-rig look very different from those of a schooner-rig. The former are extended by yards, suspended from the middle, the sails at the top being smaller than those at the bottom of the mast. They look something like this [drawing on the blackboard a mast with square sails]. The schooner-rig has no yards, the sails are extended by stays, booms, etc. [She rapidly sketches a schooner-rigged sail on the board.]

This is the principal difference in vessels, the way in which they are rigged, and they are named on this principle. First, we will take the square-rigged vessels. These are generally of two or three masts. Taking those of three masts we have first the ship. (1) *The ship has three masts, all of which are square-rigged.* [This sentence is placed upon the blackboard.] That is very simple to remember. Ship, three masts, all square-rigged. Then comes a three-masted vessel, two of whose masts are square-rigged, while the third mast is schooner-rigged. This is called a bark, or barque. (2) *Bark, three masts, two square-rigged.* [Placed on the blackboard.] A three-masted vessel, having only one mast square-rigged is called a barkentine. (3) *Barkentine, three masts, one square-rigged.* [Blackboard.] Now, can you remember so much? Try it.

All: (1) Ship, three masts, all square-rigged. (2) Bark, three masts, two square-rigged. (3) Barkentine, three masts, one square-rigged.

Gertrude: Of the two-masted vessels there can be but two kinds. First, a vessel having two masts, both of which are square-rigged. This is a brig. Secondly, a vessel having two masts, one of which is square-rigged. This is a brigantine. (1) *Brig, two masts, both square-rigged.* (2) *Brigantine, two masts, one square-rigged.* Of course, you understand that, in each case, the masts that are not square-rigged are schooner-rigged.

Of the schooner-rigged vessels first comes (1) the schooner, which may have two, three, four, or five masts, but they must all be schooner-rigged. There is also (2) the sloop, which is a one-masted vessel, with the mast somewhat back from the bow, and it also carries a jib. Besides these two, is the common "sail boat," with one mast in the bows and but one sail. This is designated a "cat rig." (1) *Schooner two, three, four, or five masts, all schooner-rigged.* (2) *Sloop, one mast with a jib.* [Blackboard.] Have I made it clear enough for you to remember?

Greta: Let me see if I can get them right. It seems easy.

Ship, three masts, and all the masts square-rigged.

Bark, three masts; two square-rigged, one schooner-rigged.

Barkentine, three masts; one square-rigged, two schooner-rigged.

Brig, two masts; both square-rigged.

Brigantine, two masts; one square-rigged, one schooner-rigged.

Schooner, two, three, four or five masts, all schooner-rigged.

Sloop, one mast, schooner-rigged, and carries a jib.

Cat-rig is the common "sail boat," one mast in the bows, and has but one sail.

Nora: You said that the sloop carries a jib; what do you mean by a "jib"?

Gertrude: There is a spar running from the mast beyond the bow, on which is a triangular sail; this sail is called the jib, the spar the jib-boom. I used to have a good deal of trouble in remembering the names of the vessels myself, until last summer while at the Vineyard, my brother gave them to me in this way, classifying them. After that I remembered them all, except that I could not always be sure of getting the bark and the brig correct. Now I remember it from the fact that *a* comes before *i* — bark before brig — and I remember them in order, ship, bark, barkentine, brig, brigantine, then schooner, sloop, and cat-rig. Shall I tell you about the masts?

All: Oh, do!

Gertrude: Beginning from the bow, the masts are named, foremast, mainmast, mizzenmast, and in a five-masted schooner, spanker and jigger masts.

The sails on the different masts are called foresail, mainsail, etc. Each sail of a ship or any square-rigged vessel has its special name. Each mast on a ship is composed of a lower, a top, and a top-gallant mast. There are so many of the sails that I do not pretend to know them all.

What was that poetry about the "Governor Ames" that you were speaking of the other day, Ethel? I should think it would be capital.

Ethel: I think it is capital, and will recite it to you if you would like to have me.

THE GOVERNOR AMES.

We heard an ancient mariner talk of naval architecture,
We can 't give his very words, but here 's the substance of his lecture:
"I 've seen all sorts of vessels, in my wanderings round the world,
Both under sail and moored in port, with all their canvas furled;
I 've seen luggers and feluccas, an' know just what they mean,
And I made one voyage in a craft they called a barkentine;
I 've handled many others, fore-and-afters and square-riggers,

And seen some rigged by savages and Polynesian niggers,
And Chinee junks and lorchas, too, and Esquimaux kayaks,
And they all have some good ideas, whites, Mongolians and blacks.
But my poor old head can't figure by dead reckoning nor by luna
What kind o' looking vessel is this new five-masted schooner.
My idea of a schooner was always a two-master;
Later on they've built 'em larger and modelled to sail faster.
I've heard of some with three masts, and now and then with four,
But I never dreamed that any crank would think of adding more;
Now here's one launched the other day, as sure as I'm alive,
Her length is nigh three hundred feet, they say her masts are five.
It makes me think of those old jokes, forgotten though long while,
About the down East lumbermen, who built ships by the mile,
And sawed them off to order, of any length required,
Thus the owner might put in as many masts as he desired.
Now perhaps some younger seaman, who is used to modern names,
Might tell me what they call 'em all on board this Governor Ames.
There's the fore, and main, and mizzen masts — that run my list all through;
What in the name of wonder do they call the other two?
She's long enough for anything, from figure-head to poop,
But how is she a schooner; why not five-masted sloop?
I suppose she's not a ship, because no yards are slung o'erhead,
But she ought to sail, considering all the canvas she can spread.
By the time my grandsons are grown up, or maybe even sooner,
They'll go rushing 'cross the ocean in a fifteen-masted schooner."

Greta: Well, I know more than the old captain. I know the names of the five masts of a schooner. I know "what in the name of wonder they call the other two." Spanker and jigger! Should not think he *would* know such names.

Mary: I move we present Gertrude with a vote of thanks for taking pity on our deplorable ignorance and enlightening us on the subject. It is easy when one knows how, and Gertrude knows how to explain it perfectly. I also move a vote of thanks to Ethel for the poem.

Greta: I second the motion; I shall not forget ship, bark, barkentine, brig, brigantine, schooner, sloop and cat-rig. Nora, present the most profound thanks of the entire company to our honored and beloved sister for —

Gertrude: There's the school bell; come, girls, or we shall be late.

RUFUS ALDRICH.

Is learning your ambition?
There is no royal road;
Alike the peer and peasant
Must climb to her abode:
Who feels the thirst of knowledge
In Helicon may slake it,
If he has still the Roman will
"*To find a way, or make it!*" —*John G. Saxe.*

EXAMINATION QUESTIONS.

Given at Bridgeport, Conn., December, 1888.

GEOGRAPHY — SEVENTH GRADE.

1. When and by whom was South America discovered? For what is South America celebrated?

2. Name five important exports from South America, and tell from what country each comes. What and where are each of the following? Callao? Cotopaxi? Orinoco? Valparaiso? Parana?

3. Describe Brazil.

4. Why is there more rain on east side of the Andes Mountains than on the west? Name the foreign countries that settled Peru; Brazil; Guiana.

5. Describe Europe. Why is the climate of Western Europe so mild?

6. Give one fact about each of the following countries: Holland, Belgium, Switzerland, Austria, France. Name the five most important countries of Europe.

7. Give five manufactures and five products of Europe, telling the countries from which each comes.

8. Describe Germany and England, giving five facts about each country.

9 and 10. Draw the map of Europe. Name and locate on the map three rivers, three mountain ranges, four cities.

ARITHMETIC — SEVENTH GRADE.

1. State the difference between a decimal and a common fraction. How do you point off in multiplication of decimals? How do you point off in division of decimals? How does it affect the value of a decimal to annex ciphers? To prefix ciphers?

2. Find the sum of 1,000 dollars 2 mills, 20 dollars 5 cents, 5,009 dollars 6 cents 4 mills, 18 dollars 8 cents 8 mills, 720 dollars 1 cent. From 1,000 dollars take 5 cents 2 mills.

3. Divide .45 by 5; .45 by .5; 45 by .05; .045 by .005. Add the answers. Multiply .001 by 1000 and from the product subtract the quotient of .001 divided by 1000.

4. Reduce to decimals and add $\frac{3}{8}$, $2\frac{1}{2}$, $\frac{4}{5}$, $\frac{7}{16}$, $\frac{7}{8}$.

5. What cost 3 tons 15 cwt. 2 qr. $12\frac{1}{2}$ lb. of coal at $8.25 per ton?

6. Bought 356.25 lb. of wool at $37\frac{1}{2}$ cents, which was made into cloth at an expense of $62.50; for what sum must it be sold to gain $37.50?

7. What will be the cost of papering the walls of a room 40 ft. long, 30 ft. wide, and 9 ft. high at 30 cents a roll, each roll being 9 yds. long and $\frac{2}{3}$ of a yard wide?

8. A farmer sent 4 loads of grain to market; the first contained 49 bu. 2 qt.; the second 46 bu. 3 pk. 1 qt.; the third 47 bu. 2 pk.; the fourth 28 bu. 1 pk. 3 qt.; what was the amount sent?

9 and 10. What is a bill of goods? What is a receipted bill? George Richards bought of Smith & Co., July 1, 1888, 20 lbs. of sugar at $8\frac{1}{2}$ cents; 8 lbs. of tea at $62\frac{1}{2}$ cents; 18 lbs. of coffee at $33\frac{1}{3}$ cents; 12 lbs. of rice at $6\frac{1}{4}$ cents. Make out a bill for the above and receipt it as if you were the book-keeper.

BOOK NOTICES.

SIXTH NATURAL HISTORY READER. By the Rev. J. G. Wood, M. A., author of "Homes Without Hands," etc. With numerous illustrations. Boston: Boston School Supply Company, 1888.

This volume completes a series of lessons designed to enrich and enliven elementary education by glimpses of the interest and the order of animal life. Beginning with simple facts about the most familiar creatures, the lessons lead young readers on to understand the necessity for classification, and the principles on which it is based. In this process a view is given of the animal world such as can hardly fail to have a considerable educational value. The book is written in a style which is simple enough for the young readers to understand, and at the same time, is so clear that they cannot fail to get a comprehensive idea of animal life and growth and of the construction of the different classes of life. The illustrations are numerous and admirable. We heartily commend this series.

FIVE HUNDRED CHOICE SELECTIONS from Prose and Poetry for Grammatical Exercises and Memorizing, with a Drill Book for Review in English Grammar and Analyzing. By Frances W. Lewis, A. B., Rhode Island Normal School. Boards, pp. 160. Price, 75 cts. Boston: Eastern Educational Bureau, 50 Bromfield Street.

Many teachers in High Schools, Academies, and Normal Schools, in attempting to induct the students into the principles of Rhetoric, have found that the pupils required review in Grammar and Analysis before they were fitted to grasp the broader and more practical applications of Rhetoric. This book is the outcome of the careful study of these difficulties and a very successful mastery of them. It is emphatically a classroom book and will be heartily welcomed by many teachers of Grammar and Rhetoric, both for the Drill Book in Grammar and for the most excellent list of selections for memorizing, parsing, and analysis. These 500 quotations include many of the finest gems in our language. The book will meet a broad need.

COOKING AND SEWING SONGS AND RECITATIONS for Industrial and Mission Schools. Edited by Mrs. J. B. Romer, publisher of "Cooking Lesson Cards." Pp. 65. Price 50 cents. New York: J. W. Schermerhorn & Co. 1889.

These bright and lively songs have been written by some of the best song writers, and set to college and other popular airs. In teaching cooking to classes of children, it has been found that bright and cheerful songs are very helpful and inspiring, and this is also true of teaching sewing. These songs have been written for this express 'purpose, and will, no doubt, be found of great value by all teachers of these branches.

CHOICE SELECTIONS. By Charles Northend, A. M., author of "Teacher and Parent," "Teacher's Assistant," etc. New York: D. Appleton & Co. 1888. Pp. 140.

This book contains about six hundred extracts from more than two hundred different authors, designed for lessons in recitation, reading, morals and literature. The volume was originally published as two separate parts but it has been thought that a combination of the two will prove acceptable, and they are, therefore, so presented in this work. The book contains an alphabetical list of the authors as well as a list of the selections, both prose and poetry, with the author of each.

Common School Education,

DEVOTED TO THE ART OF INSTRUCTION.

VOL. III. MAY, 1889. No. 5.

A UNIQUE EXHIBITION.

BY DR. L. R. KLEMM, PRIN. TECHNICAL SCHOOL, CINCINNATI, O.

IN Cologne, Germany, I found the first complete exhibition of "means of instruction." It is not a public but a private affair, and as such very instructive and complete. Spending a few hours in it has given me more information than many tedious visits to schools. An enterprising publisher and bookseller has collected in a large room all the apparatus invented in Europe for the purposes of rational teaching. The exposition is a complete picture of the present highly developed art of instruction. I will confine myself to a simple statement of what can be found in this hall. A few words as to the value of certain objects, added to each department, must suffice, for in order to give a full description the space of a book would be needed.

I. *School furniture and utensils.* All are objectionable from an American point of view. Our furniture is more durable, more commodious and much handsomer. The same holds good in regard to utensils.

II. *Pictures for object lessons.* Sixteen different sets, all exquisitely colored and very well suited for the purpose in Germany, but not suitable for our schools; the scenery, costumes, etc., being different.

III. *Pictures for Biblical history.* Eight different sets. Very fine, comparatively cheap and durable. Excellent for American Sunday schools.

IV. *Reading charts*, "*Setzkaesten*," portable blackboards.

V. *Charts for penmanship.* Unnecessary if the teacher writes well.

VI. *Arithmetic.* Number charts, apparatus, number-boxes and assorted objects for counting. Thirteen different contrivances. All are very useful, cheap, but little durable.

VII. *Geometry.* Models for mensuration, geometrical bodies of wood, paper mash and wire structures; eighteen different sets, some containing as many as twenty-four objects, all very well made, durable, and cheap. I wish every high school in America had a set of them. There are also fifteen single objects of rare exactness which are not included in the eighteen sets.

VIII. *Geography.* (*a*) *Globes*, twenty-four different "brands" of globes, plain and relief; slate globes, plaster globes, papier-maché globes; large and small, ranging in prices from 27 marks, or about $7, to 1245 marks, or about $310.

(*b*) *Tellurions*, lunarions, sphere-tellurions and planetarions with clockworks and without. This department is so well stocked and the apparatus so exquisitely made, that I spent a half hour alone in observing the motions. The planetarions particularly captivated me. The large size cost only about $100, the smallest size $14.

(*c*) *Wall maps.* Fourteen sets of the hemispheres, eight sets of Africa, thirteen of America, eight of Asia, four of Australia and Oceania, sixteen of Europe, sixteen of Germany, three of Prussia, eight of Rhenish Prussia, seventeen of special districts of the province, eighteen of Palestine and numerous maps of the countries of Europe, but not a single map of the United States. A solemn fact! The maps are good and vastly better for school use than many used in our country.

(*d*) *Relief maps* of exquisite workmanship.

(*e*) *Pictures* for objective teaching in geography; thirteen different sets. Those of Hölzel in Vienna are masterpieces and ought to be in every school. $40 for sixty pictures measuring each 59 by 79 centimeters.

IX. *History.* (*a*) *Wall maps* and charts, some forty in number, all good.

(*b*) *Atlases;* twenty-seven different kinds ranging in prices between 25 cents and $15.

(*c*) *Pictures* and *Models*, twelve sets.

X. *Drawing.* (*a*) *Models* for drawing of solids, in wood, plaster, and other materials. I failed to note their number. Prices very reasonable.

(*b*) *Copies* for freehand and ornamental drawing, fifty different sets, some of marvellous beauty, none poor.

(*c*) *Copies* for geometrical and technical drawing. Seventeen different sets by different authors.

(*d*) *Copies* for artistic drawing, twenty sets.

(*e*) *Studies* for painting, twenty-three sets.

(*f*) *Utensils* for drawing. Whatever a fastidious artist or a clumsy schoolboy might wish is here collected. Much is superior work, other articles are shabby.

XI. *Natural History.* (*a*) The three kingdoms. Wall pictures, atlases, and such things as are within range of poor schools, twenty sets in all.

(*b*) *Zoology:* (1) wall charts, eighteen sets; (2) pictures, thirteen sets; (3) natural preparations and collections, skeletons, stuffed birds and animals, too numerous to count; collections of beetles and butterflies made of embossed paper and mounted on pins.

(*c*) *Botany:* (1) wall charts, eighteen sets; (2) pictures, eleven sets; (3) preparations, models and apparatus, too numerous to count. A new thing in this department is the collection of artistic flowers which are built so that they may be analyzed in the class. They are of immense size and one specimen in the hands of the teacher would suffice for a class of sixty pupils.

(*d*) *Mineralogy:* (1) wall charts, pictures; (2) models and collections at very reasonable prices.

XII. *Physiology.* Models made of plaster and of papier-maché, altogether sixty-four models, most of which can be taken apart. They are of rare workmanship but have been on exhibition in America at various occasions.

XIII. *Physics* and *Chemistry.* I will refrain from itemizing here. The apparatus for natural philosophy made in America is fully as complete and as cheap. I found few new things that I had not seen in America and those all referred to electricity. Suffice it to say, that the catalogue of this special department contains nearly a thousand numbers. Everything that human ingenuity ever invented for exemplifying physics and chemistry is here collected.

XIV. *Technology.* Apparatus and collections, such as flax, cotton, wool, silk, leather, paper, glass, dye-stuffs, fuels, metals, etc., in various stages of industrial use.

XV. *Agriculture.* Wall charts illustrating farming, fruit raising, and such things. Fish culture, hunting, and the like are represented in this department, but this whole department is somewhat out of place, though it is not considered so in Germany where teachers are encouraged to foster floriculture, fruit raising, etc.

XVI. *Music.* (1) musical instruments; (2) printed music; (3) utensils.

XVII. *Girls' Industrial Occupations.* Quite a valuable collection of models and all desirable utensils.

XVIII. *Gymnastics.* Twenty-five different apparatuses; very durable and well made. Fancy prices.

XIX. *Kindergarten.* Complete sets of Froebel's gifts and many others, all more or less well known in America.

XX. *Deaf Mutes' School.* All the ingenious contrivances used in schools for deaf and dumb children, fifteen numbers, charts, pictures, etc.

These in rough outlines are the contents of the exhibition, and the schools of the city profit by the enterprise of the owner, for many an apparatus which cannot be bought may be borrowed or rented here, which costs but little. Every large city ought to have such an exhibition.

METHODS IN DRAWING.[1]

BY MRS. MARY DANA HICKS.

Director of Prang's Normal Drawing Classes by Correspondence.

III.

HAVING considered somewhat in detail the methods of observation of form in models, and having alluded to various means of expressing the form ideas thus obtained, we turn now to *drawing* as that form of expression which is the most complete of all the means that are at ready command.

As has been previously said, "making" is the most perfect means of expressing any ideas of form; but this means requires a supply and a manipulation of material that are not always to be commanded. But the equipment required for drawing as to material, is slight, a paper and pencil or some equivalent, being almost always at hand.

Therefore as form-study progresses, more and more prominence is given to drawing as a means of expressing form-ideas.

THREE REQUISITES.

In order to draw well, there are three indispensable requisites: —

1. An idea to be expressed.
2. Facility in execution.
3. Knowledge of the conventional ways of using drawing.

As the first requisite to good drawing is,—An idea to be expressed, — drawing should always be preceded by observation and thought.

Having by this means gained the idea to be expressed, the second

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[1] Copyright, 1889, by Mary Dana Hicks.

requisite is, — Facility in execution. The attainment of this facility is of great importance. It implies a cultivation of the hand to do, of the eye to oversee, and of the mind to guide. But a great part of the facility desired may become automatic if the proper training is given. The drill necessary to produce this automatic readiness should be initiated with the first study of form and should be persistently continued.

FREE MOVEMENT.

Froebel says: " The correct holding of the fingers and of the hand, for free use in drawing, requires a correspondingly correct free use of the whole arm; this requires again indispensably a correct use of the other limbs and also of the whole body of the child, who draws, if he would thereby represent what he creates, with a free action of the body and with a free spirit. For a free, skilful use of the body presupposes necessarily a free, bright spirit, as both mutually condition each other." As therefore true, free, beautiful drawing demands a body and limbs well developed, one of the first steps toward drawing should be to provide for exercises that will lead to a "firm carriage and free position of the body, beginning with the development of the arms, hands, and fingers."

MOVEMENT EXERCISES

Simple gymnastic exercises that can readily be carried on in any schoolroom, furnish the means for the physical development necessary.

These exercises should include circular movement, (the idea ***round and round***, having been gained from the sphere), movement up and down, left and right, forward and backward, diverging and converging, and elliptical and oval movements. They should be carried out with both arms, moving in unison, although sometimes in opposite directions.

The first set of movements[1] should be with the arms completely outstretched, so that each arm will move as one member from the shoulder to the ends of the fingers — the fingers should touch each other and the thumb should be close to the hand, the palms forward as seen in Fig. 1 (p. 172). Fig. 2 is a side view of the same figure.

This set of movements can be dictated as follows: —

Hands up, palms forward, (Figs. 1 and 2). Out in front, (Fig. 3). Down, (Fig. 4), then reversed. Out in front, up, and then repeated.

The movements should not be spasmodic, but easy, regular, and free from the shoulders.

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[1] These movements are intended for all who wish to draw readily, adults as well as children.

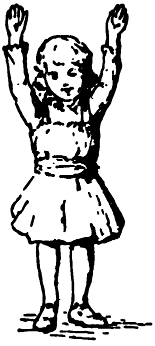
Fig. 1

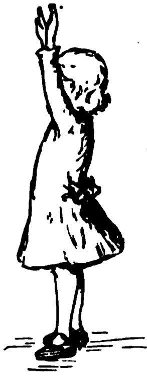
Fig. 2

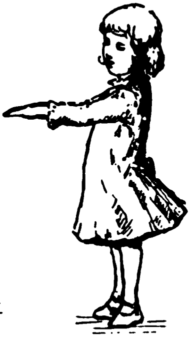
Fig. 3

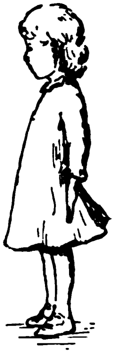
Fig. 4

The second set of movements should be as in the first, with arms outstretched, fingers touching, thumbs close to the hand, but the palms should be turned downward as in Fig. 5.

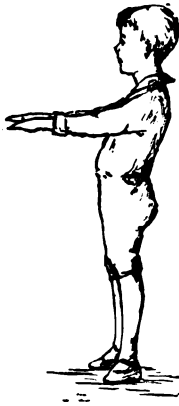
Fig. 5

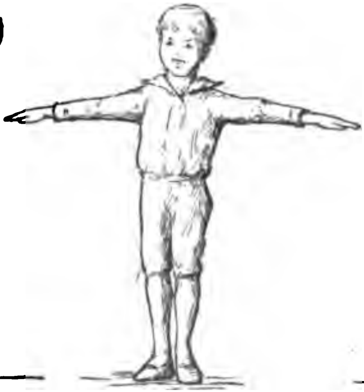
Fig. 6

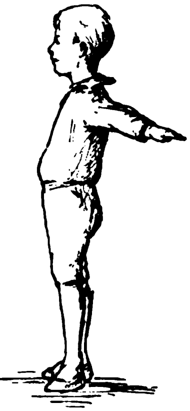
Fig. 7

This set of movements can be dictated, as follows: —

Hands out in front, palms downward, (Fig. 5). Out at sides, (Fig. 6). Out at back, (Fig. 7).

The third set of movements should be as before with arms outstretched, fingers touching, thumbs close to hand — but the palms should be turned outward, (Fig. 8).

This set of movements can be dictated as follows: —

Hands up, palms out, (Fig. 8). Out at sides, (Fig. 9). Down, (Fig. 10).

After practice has made these three sets of movements easy and rhythmic they can be continued consecutively; as one passes readily into the other, by returning each time to the second position, before taking up the next set.

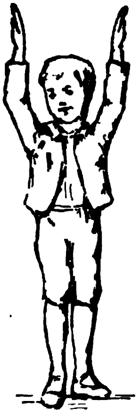

Fig. 8

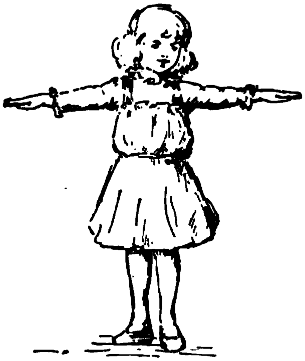

Fig. 9

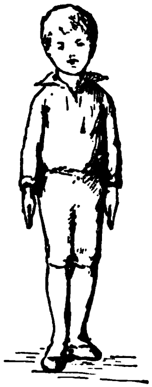

Fig. 10

In each of the nine positions given, the circular movement can be practised. The purpose of all these movements is easy rotary movement.

The next three movements lead to direction. They are to be made from the shoulder, but with the arms bent at the elbows, the arm from the elbow to the tips of the fingers remaining unbent and as one member — the fingers straight out and touching and the thumb close to the hand — the palms outward.

The first position to be taken in each movement is with the palms directly in front of the shoulders, as in Fig. 12. For movement round and round, the hands are moved first straight toward each other until the tips of the fingers meet, then round and round, moving always from the shoulder, (Fig. 11).

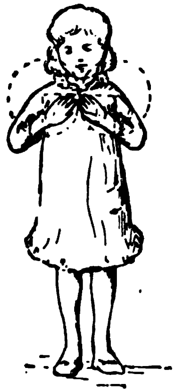

Fig. 11

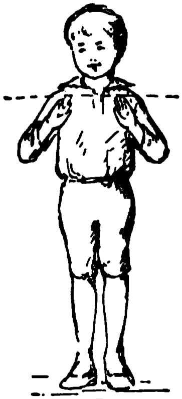

Fig. 12

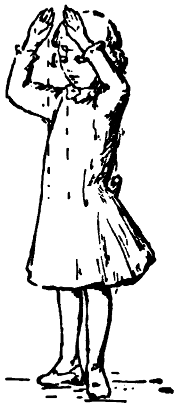

Fig. 13

Fig. 12 shows movement in a horizontal direction, the hands moving in opposite directions—Fig. 13 shows movement in a vertical direction. These three movements can also be combined.

As these movements are given, other exercises should be added to render the fingers flexible and to bring them under control.

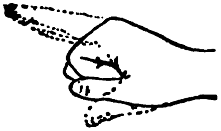

Fig. 14

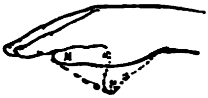

Fig. 15

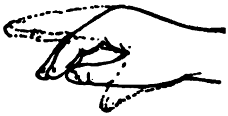

Fig. 16

Fig. 14 shows practice in opening and shutting the hands. Fig. 15 in moving the thumb from and toward the hand. Fig. 16 in bringing thumb and fingers together. The movement should be easy and regular. By such practice the arm and hand become ready to move easily at will.

LANGUAGE LESSONS AND EXERCISES.[1]

(*Second Series.*)

V.

BY L. W. RUSSELL, A. M.

MARKS OF QUOTATION.

IT will be the purpose of this number to give a wider range of uses for marks of quotation than is usually found in textbooks upon grammar or language; also, to direct attention to certain restrictions in their use not sufficiently heeded by inexperienced writers.

There are many instances in which words, phrases, and sentences are taken for special uses or meanings. In such cases the employment of marks of quotation is sanctioned by the practice of many of our most careful writers.

It is important in teaching this subject to pupils that they get the broad sense in which the word "quote" is, or should be, used in its application to expressions properly enclosed by the "marks." This comprehensive meaning will be best given to the learner by properly arranged exercises and illustrations.

1. Marks of quotation should be used to enclose the precise words of another, whether written or spoken; as, Wordsworth says, "The child is the father of the man."—It was the brave Captain Lawrence who said, "Don't give up the ship."—Longfellow well says, "Learn to labor and to wait."

Enclose by marks of quotation the expressions requiring them in the following: —

A wind came up out of the sea, And said, O mists, make room for me.

It hailed the ship and cried Sail on, Ye mariners; the night is gone.

And hurried landward far away, Crying, Awake! it is the day.

It said unto the forest, Shout! Hang all your leafy banners out!

It is impolite and rude for young persons to say, yes, and no, to older people; they should say, yes sir, to a gentleman, and no ma'am, to a lady.

RULES.

Use a capital letter at the beginning of a quotation which is introduced in a direct form.

A comma should be inserted before a short quotation or before an expression which gives the substance of one.

A colon should be placed before a quotation formally introduced; as, In his address to young ladies, Dr. Peabody said: "Language ought to express the speaker's ideas, neither more nor less."

Rem. The marks of quotation are unnecessary if the quotation following the colon ends the paragraph. The capital letter shows the beginning, and the end is clearly seen.

EXERCISE.

Select some choice sentence or stanza from each of the following authors, properly using marks of quotation: from Irving, Longfellow, Holmes, Whittier, Bryant, Washington, Lincoln. Write appropriate introductory words for the quotations.

Examples: Dr. Holmes in his *The Autocrat at the Breakfast Table*, says, "Knowledge and timber should n't be much used till they are seasoned."

Among the best things said about learning is this, from Mrs. Sigourney: "The true order of learning should be, first, what is necessary; second, what is useful; and third, what is ornamental." But it by no means follows that these should not, in a degree, varying with circumstances, be taken together.

Directions. — Continue, from time to time, finding and transcribing choice expressions from different authors, giving some thought or opinion of your own in connection therewith. The making a little book of this kind will give tone to one's life corresponding with the thoughts thus gathered.

2. Marks of quotation should be used to enclose the parts spoken in dialogue, as in the following example: —

"What is your name?" said the Poppy.
"Daisy," said the humble flower.
"Are you not afraid of me?" said the Poppy.
"Not at all" said the Daisy.
"How homely you are," said the Poppy.
"Am I?" said the Daisy.
"Who would spend a thought on *you?*" said the Poppy.
"Robert Burns," said the Daisy.

3. A quotation within a quotation should be enclosed by single marks, thus: —

"'I rise for information' said a member of Congress. 'I am glad to hear it,' cried another, sitting by, 'for no one needs its more.'"

J. P. Richter, in his impressive story about "*The Two Roads*," closes by saying, "Remember, that, when years shall be passed, and your feet shall stumble on the dark mountain, you will cry bitterly, but cry in vain, 'O youth! return. Oh, give me back my early days!'"

4. Marks of quotation should be used to enclose popular phrases; as, during a political campaign, "Free wool for the Million." "Protection for the Laborers." "Let us have peace!"

Pupils give other quotations, but do not quote slang.

5. Marks of quotation are used as means of distinguishing words and phrases, thus: —

In common speech the verb "sit" is often confounded with "set"; and "lie" (to recline) with "lay."

The use of the expression, "not at all," in response to the declaration, "I am much obliged," is not in good taste.

The word "scarce" is often improperly pronounced "skurce."

Direction. — Illustrate "5" by correcting common errors in the use of words and phrases. Such things written and preserved make a lasting impression.

6. Marks of quotation should be used to enclose one's own words elsewhere given; as, I repeat, in closing, the proposition with which I began, "No republican government can long exist except upon the morality and the intelligence of the masses of its people."

7. Marks of quotation are frequently used to include words which give the meaning or significance of terms or phrases, thus: *Transitive* means "going over": *superlative* means "surpassing" or "exceeding."

The term "reason" has been variously defined.

I do give, strictly speaking, means, "I do or perform an act of giving."

Duckling means "a little duck"; *kingdom*, "the realm of a king."

The "relatives" have their value as such, only in what are called "complex sentences."

Note. — The terms defined in instances like the above are sufficiently marked by the use of the italic letter, or, in script, by underlining.

Exercise. —Use marks of quotation where it is proper to do so in the following: —

Will means, originally, wish, resolve, determine.

Shall means, originally, owe, be under, obligation.

I sang my throat hoarse, meaning, I made my throat hoarse by singing.

Wrings dry means, makes dry by wringing.

Under the name verb we do not include, etc.

Remarks. 1. The marks of quotation should be omitted when the matter quoted is not in the exact words of the authors; as Randolph said that we should pay as we go. Quoted: Randolph said, "Pay as you go."

2. The "marks" are omitted when a quotation is made from a foreign language, the same being shown by the use of *italics*, thus: *Mens sana in corpore sano*, is a good motto for the student.

3. When a quotation is introduced by the conjunction "that" or is brought in indirectly, the use of a small letter at the beginning is preferable to the capital; as, "Happy are those, who, 'dying, leave no line they wish to blot'!"

"It is well said by a celebrated writer, that 'precious as thought is, the love of truth is still more precious.'"

4. In respect to the titles of books and the names of magazines and newspapers usage is not uniform. Cocker says, after having examined the practice of seventeen prominent magazines and reviews, which he names, that fourteen use quotation marks, and four italics, in referring to the titles of books; and that eleven use italics and six use quotation marks, in referring to magazines and papers.

If the title of a book be long it seems quite desirable to use marks of quotation, as; "Poems and Prose Passages from the Works of Oliver Wendell Holmes."

COMPOSITION EXERCISE.

Write of "A Spring Walk," imagining conversations between the trees and the grass. Let them speak, in dialogue, of their winter's sleep, the joy which they feel at the inviting warmth of spring; the pleasure they take in putting on new garments and bringing forth blossoms. Tell what the brooks say to the boys with their fishing rods; what the birds say to the frogs; and what the frogs say to the farmers. Tell what the robin says from the tree-top; what the blue-bird and the sparrow say to each other as both strive for the same house.

Tell your own feelings. Use quotation marks carefully.

PRACTICAL METHODS OF TEACHING SPELLING.[1]

(*Second Series.*)

V.

BY ANNA B. BADLAM.

Rice Training School, Boston, Mass.

Lesson 62. Words used as Stems. — *a* broad.

1. — Name words and their forms.

ball *fall* *stall* *call* *wall*
balls *falls* *stalls* *calls* *walls*

2. — Quality words and their forms.

tall *taller* *tallest*
small *smaller* *smallest*

3. — Action words and their forms.

fall *falls* *falling*
call *calls* *calling* *called* *caller*

Lesson 63. The Initial letter changes. — *a* broad.

talk *chalk*
walk *stalk*

Lesson 64. Words used as Stems.

1. — Action words.

talk *talks* *talking* *talked* *talker* *talkers*
walk *walks* *walking* *walked* *walker* *walkers*
stalk *stalks* *stalking* *stalked* *stalker* *stalkers*

2. — Name words and their forms.

stalk *stalks* *talk* *talks* *walk* *walks*

3. — Name words changed to Quality words.

chalk *chalky* *stalk* *stalky*

Lesson 65. The Final letter changes. — *a* broad.
The broad sound of A before R.

war *warn* *warm* *ward* *warp* *wart*

Lesson 66. The Initial letter changes.—*o* = *a* broad.

ô (*o* broad).

or *nor* *for*

Lesson 67. The Final letter changes.

for	*nor*
form	———
ford	———
fork	———
fort	———
———	*north*

Lesson 68. The Initial letter changes —*o* = *a* broad.

1.

fork	*form*	*sort*	*torch*	*horse*	*north*
cork	*storm*	*short*	*scorch*	———	———

2. — The Final letter changes.

cork *corn* *cord*

3. — The Initial letter changes.

corn *born* *torn* *thorn* *morn*

Lesson 69. The Initial letter changes. —*o* = *a* broad.

ought *bought* *sought* *thought* *fought*

Lesson 70. Words used as Stems.

1. — Name words.

thought *thoughts*

2. — Quality words.

thought *thoughtful* *thoughtless*

Lesson 71. The Initial letter changes.

ä (Italian *a*).

far	*bar*	*star*
car	*tar*	*spar*

Lesson 72. The Final letter changes.

far	*car*	*bar*	*tar*	*star*	*spar*
farm	*card*	*bars*	*tart*	*start*	*spark*
———	*cart*	*bark*	*tarts*	———	———
———	———	*barn*	———	———	———

Lesson 73. The Initial letter changes.

card	*bark*	*tart*	*barn*	*bars*
hard	*dark*	*part*	*darn*	*cars*
lard	*lark*	*mart*	*yarn*	*stars*
yard	*hark*	*smart*	———	———

Lesson 74. Words used as Stems.

1. — Action words.

farm	*farms*	*farming*	———	*farmer*	*farmers*
bark	*barks*	*barking*	[1]*barked*	———	———
smart	*smarts*	*smarting*	[2]*smarted*	———	———
part	*parts*	*parting*	[2]*parted*	———	———
darn	*darns*	*darning*	[3]*darned*	———	———

[1] ed = t.
[2] ed = ed.
[3] ed = d.

2. — Quality words changed to action words.

dark	*darken*	*darkened*	*darkening*

3. — Name words.

card	*yard*	*lark*	*barn*	*yarn*
cards	*yards*	*larks*	*barns*	*yarns*

4. — Quality words.

hard	*harder*	*hardest*	
dark	*darker*	*darkest*	*darkly*
smart	*smarter*	*smartest*	———

5. — Quality words changed to name words.

hard	*dark*	*smart*
hardness	*darkness*	*smartness*

Lesson 75. The silent letter.

Silent U. Silent L.

aunt	*daunt*	*haunt*	*launch*	*calm*	*laugh*
taunt	*gaunt*	*jaunt*	*craunch*	*palm*	———

Lesson 76. The Initial letter changes. — (g = j).

barge	*large*	*charge*

Lesson 77. The Final letter changes. — (*a* = *o* short).

was	*wash*
wan	*wasp*
wand	*watch*
what	*want*

Lesson 78. The Final letter changes.

squat
squad
squash
swan
swap
swamp

Lesson 79. The Initial letter changes. — (*a* intermediate).

fast
last
mast
cast
past
vast
blast
———

Lesson 80. The Initial letter changes.

ask
bask
cask
mask
task
flask

Lesson 81. The Initial letter changes.

pass
mass
class
glass
grass
brass
pant
grant
chant
———

Lesson 82. The Initial letter changes.

dance
chance
lance
glance
gasp
hasp
grasp
clasp

Lesson 83. The Initial letter changes.

waft
raft
draft
craft
graft
shaft
chaff
staff
quaff
———

THE HISTORY OF OUR COUNTRY: HOW TO TEACH IT.[1]

BY WILLIAM A. MOWRY.

(*Second Series.*)

IV.

THE DRIFT TOWARDS INDEPENDENCE.

IT is important that the teacher of history should be not unmindful of the logic of events. When pupils at school are old enough to carry forward a course of study in history, — say from thirteen to fifteen years of age, — they can readily grasp the relations of cause and effect, and by calling their attention to the "drift of events" much will be added to their interest in the study as well as to the clearness of the conceptions which they acquire from it.

After the treaty of 1763 the necessity for the dependence of the English colonies of North America upon the mother country was greatly weakened, and these colonies were unconsciously drifting by the stern logic of events towards independence. The stamp act was the wedge which finally forced the two asunder, but the result would have come in another form if not in that. When Franklin, in 1766, was called upon by the House of Commons to give his opinion "whether the people of America would submit to pay the stamp duty, if it was moderated?" he promptly replied:—"No never, unless compelled by force of arms." And yet, Franklin and all America had no idea of independence. Indeed, when hostilities commenced in 1775, which so soon were to bring the whole people with such remarkable unanimity to the declaration, even then few persons in America had any intention, or even wish, to separate from the mother country. The forces, however, were at work which would inevitably lead to such a result, and foremost among them was the fact that France no longer threatened the rear of the colonies. Had she, however, remained in possession of the region beyond the Alleghanies, the colonies would have so needed the protection of Great Britain that independence would not have been either possible or desirable. It was an inevitable sequence of the new map of North America, made by the treaty of 1763.

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[1] Copyright, 1888, by William A. Mowry.

In a recent written examination for promotion from a grammar to a high school, a fourteen year old boy answered the question:—"What were the causes of the American revolution?" in the most laconic way by writing upon his paper the single word, "Taxes."

Let every teacher of the history of our country see to it that his pupils should be so thoroughly grounded in the facts and principles concerning this subject that at least such an answer would be impossible.

CLAY: ITS EDUCATIONAL VALUE IN THEORY AND PRACTICE.

PART IV. CLAY CUTTING.

BY MAY MACKINTOSH.

ACCORDING to the law "From the concrete to the abstract," applied by Froebel, "From the solid to the point," we now leave our solid form-making, and proceed to the plane, as shown by the different figures cut in slight relief on the clay-pads. The *surface only* is considered; we cut down and away from it only to make the intended figure more visible.

"What is the peculiar benefit of this mode of clay manipulation?" you ask. It is, *that above all other materials, and modes of working, clay-cutting develops fineness and delicacy of touch, that reacts* *in every other department of school-work.* It is easy to write or draw heavily on paper or slate: it is utterly impossible to make heavy lines on the clay-pad, without at once spoiling the whole, and having to commence again from the very first step.

When beginning the use of the compass in clay, I thought it would be necessary to let the little ones (of six and seven) try on paper first. I did so, with most disastrous results to the pencil-points of the compasses. (I use the fifteen-cent School Compass, advertised in most educational papers.) As it was impossible to sharpen points for that lesson, I thought I would use the clay-pads, which had been prepared the day before. I gave directions that they should use the pencil-point for their centres, —and the *pin* to draw lightly the circumference. To my surprise, nearly every one described a perfect circle; and settled forever in my mind the disputed precedence, — Paper? or Clay? The pivot-hole sometimes becomes too large and unsightly, but it is easy to fill it up with a moist piece of clay, if desired.

A second point, hardly inferior in value to the first, is, *that in the clay-cutting we try to do the most perfect work possible with the minimum quantity of tools, and those such as are within the reach of any child.*

Putting aside the cost of the clay, and the board, or stout manilla paper on which to work, each child *requires* for the First Series, only

(1) A foot-rule.

(2) An old, dull penknife, or kitchen-knife, — the duller the better.

(3) A pin (!)

Even if we add, as I should always advise doing, — one one-inch square tablet, and a few kindergarten sticks, from one to five inches in length, the cost will not be overwhelming!

By the time we come to the Second Series, many children have been trusted by their parents with smaller, pointed penknives of their own; and by judicious borrowing and lending we manage the critical parts that *can* only be managed with a fine point and small blade. The large knives still answer for the rough work of cutting away the clay; and the well-provided children are very kindly to their poorer neighbors, lending their knives whenever possible without stopping work altogether.

In this series there is the additional expense of a fifteen-cent School Compass to each child, perhaps one between each two children, if economy is absolutely necessary.

I do *not* use this exercise as a means of teaching *exact* geometry. In fact, in my earliest trials, I had even more eye-work than I now think best.

I have not striven to find the easiest way to perform the allotted work, or indeed, any set way. It must be remembered, too, that to my kindergarten children, all this plane-work is a review of what they had before they entered the Primary room, only from an entirely different standpoint, — Work, not Play.

What I wish to develop is a readiness to grasp what has to be done, for this reason giving only easily-understood exercises at first; and a great independence of tools in doing it. I have little respect for the practical genius of a boy, or a girl either, who can't make a workmanlike job with extemporized tools.

After all, it is rare, in ordinary casualties, that just the right kind of appliance is at hand; and I want to train my children to make the most of what they have, in all such cases.

In skill and power the gain is so great that I have perhaps neglected to speak of the fine mental training given. After the first few lessons, I say what I want done, and ask how we shall set about it. This the children thoroughly enjoy, and the results are fine; even though sometimes we have n't time to "polish off" our work.

Now for a few practical hints.

Clay differs in price from 1½ to 4 or 5 cents a pound, according to distance from a pottery, or other place of supply. All kindergarten-supply places keep it.

Squares of stout wrapping-paper (10 x 10 inches) will do to cover the desks for clay-work, if it is not to be kept moist from day to day.

For continuous work, as in fine free-hand modeling, it is well to have a carpenter make wooden frames, a foot square, inside measurement, or even larger; and then fill in with plaster of paris until level with the edges of the frame. Of course, the frames must be laid on a suitable place, — perhaps a flat stone, which cannot be injured. I have not yet made these, so cannot add the points only to be learned through experience. However, I do not imagine the problem is a difficult one. A damp sponge, laid beside unfinished work on one of these boards, keeps it in good condition.

At first, I had a time set apart when each child made its own clay-pad for the next day's work; but after they had learned to make a firm basis for work, without holes or inequalities, I thought it was waste time for the children, and gave me more work than the results justified. So, after sundry experiments with outside children, who found the work too hard, I told my children that if their mammas and papas agreed, two of their number might stay after school every Wednesday, taking turns, and I would divide between the two children who stayed the ten cents I formerly gave the outsiders. This pleased them; and nearly all brought back word they might stay when I wanted them. The two children make about thirty pads between them, and so far, this arrangement works well.

The pads should be about an inch thick; and larger than the measurements given on each figure to allow of trimming to the required size. This is done by eye and ruler, — no T square, or parallel rulers.

The knives I always keep myself; as otherwise they would often be "in my other pants' pocket," when required.

The first outline cuts of each figure are to be light; then deepen with knife, held with the whole length of its cutting edge perpendicular to the surface of the clay; then slant the knife so that it almost *lies* on the outside clay, and cut *towards* the figure carefully, maintaining this slant. When the slanting cut meets the vertical one, pull the knife steadily back; and the first slice of clay will come away with it. Repeat till your figure is blocked out; then finish. *Make a point of never touching the central figure with the fingers, and as little as possible with the knife.*

Now a few words about each of the illustrated figures.

After spending as much time as you think profitable in getting a fairly true three-inch square, which may not be true first, or even the second lesson, I give each child a square tablet (mine happen to be one-sixth of an inch thick, and are just right for me, though discarded as unfit for kindergarten use). This tablet the child lays as near the centre of the pad as he can, looks well at the space it covers, takes it lightly off without pressing, so as to leave any marks on the clay, and then tries to make four pin-pricks, *very* lightly, as far apart as the corners of the square. This has to be rubbed out, and repeated again and again with most children; but at last the figure is ready for the first attempts at cutting. I take from three weeks to a month on this one figure. It is best to go very slowly at first.

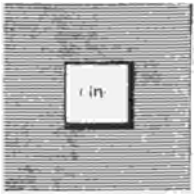
The next three are only outlined with sticks, first on the pad, then at the back of the desk, and "pointed out" as before with the pin.

With No. V., I begin one construction-line, cutting the four-inch square in half vertically. An inch from the lower end of this line the child makes a dot, places ruler across the clay parallel to the horizontal edges of the pad, and marks off an inch at each side of this dot. (I always work with inches and half-inches when possible; the children are too young for complicated fractions, and the inch is a valuable measure to have at one's finger-ends.) Then, with a two-inch stick, or holding the ruler two inches from the end, I direct the child to slant the ruler from the end of the two-inch line already drawn to the construction line, first on one side, and then on the other, marking the point of union. This of course gives all that is needed, and the work is finished as before. I generally have them mark an inch from the upper angle of the triangle and then cut off the one-third inch remaining.

FIRST SERIES. — (Half actual size.)

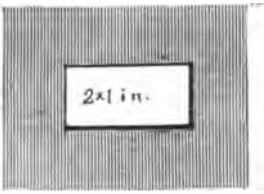
RULE, TABLET, STICKS.

I



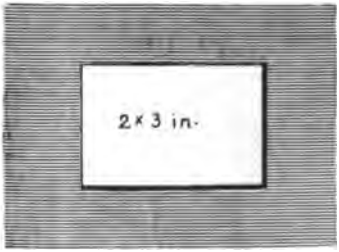
Pad 3 x 3 inch.

II



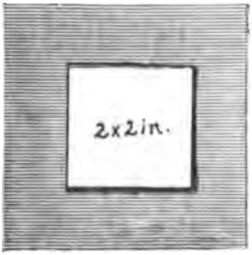
Pad 3 x 4 inch.

IV



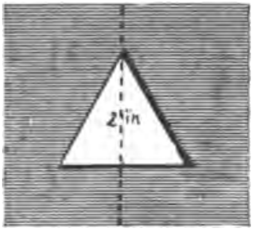
Pad 5 x 4 inch.

III



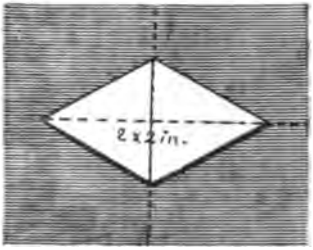
Pad 4 x 4 inch.

V



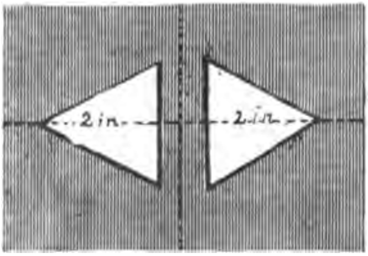
Pad 4 x 4 inch.

VI



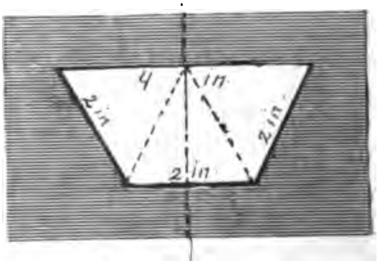
Pad 4 x 5 inch.

VII



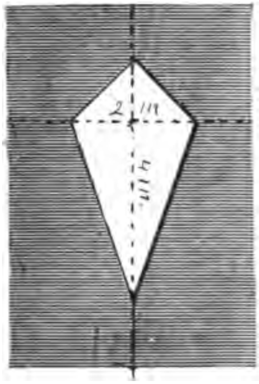
Pad 6 x 4 inch.

VIII



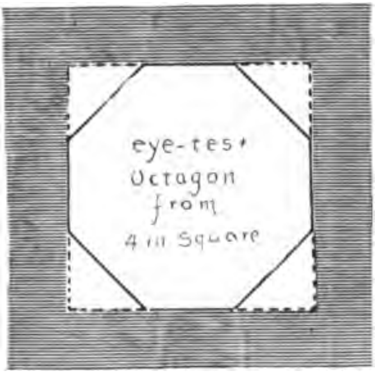
Pad 6 x 3 2-3 inch.

IX



6 x 4 inch.

X

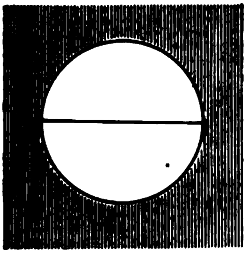


Pad 6 x 6 inch.

SECOND SERIES. — Compass and Rule.

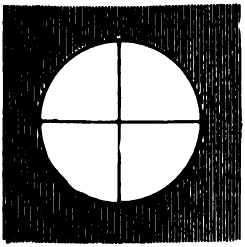
Uniform in size of pad, and diameter of circle, with the exception of Nos. VIII. and IX.

I



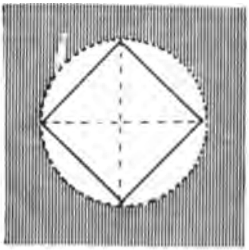
Circumference, diameter, and 2 semi-circles.

II



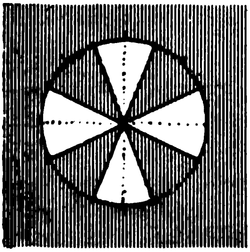
4 Quadrants.
2 Diameters.

III



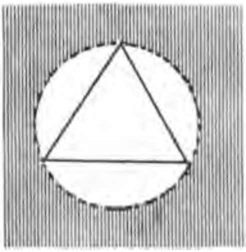
4 Chords, arcs, and segments, and central square.

IV



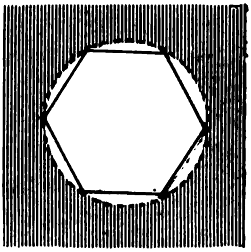
8 Sectors, 4 cut away.

V



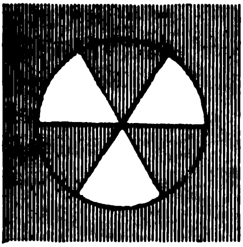
(Hexagon series.)
3 Chords, arcs, and segments. and central triangle.

VI



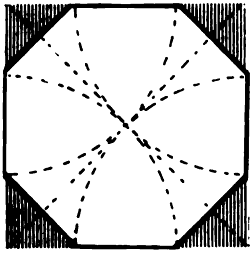
(Hexagon series.)
6 chords, arcs, and segments and central hexagon.

VII



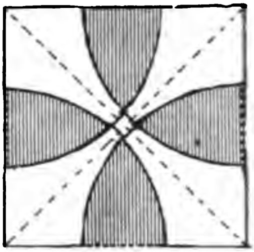
(Hexagon Series.)
6 sectors, 3 cut away.

VIII



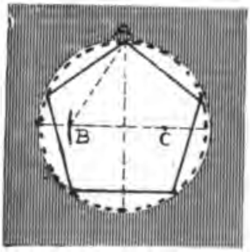
Octagon from 4 in square.
Compass centered at each corner of square.

IX



Symmetrical figures. from Fig. VIII.

X



Pentagon from circle.
Compass centred at C, which is 1-2 radius of circle; find arc B; B A = side of pentagon.

Figures VI. to X., I think are self-explanatory. If the preceding figures have been well done, the "free-eye-test octagon" should be very satisfactory; probably better than the teacher can make, unless she has gone through the same amount of practice.

For the Second Series, take any convenient size, *not* smaller than a four-inch pad, and a circle two inches in diameter. The bigger the work the more educational. It is comparatively easy to produce dwarf perfection!

Figures VIII. and IX. should have pads of 5x5 inches, or even larger.

In conclusion, I do not offer this series as an example to be copied, but simply as a suggestion to become fruitful in wiser minds than mine. I may say, for the encouragement of those who may not have had the opportunity to study Geometry, that I never had more lessons than the rudiments given in the kindergarten course for teachers, and these I supplemented with an excellent little book, Spencer's "Inventional Geometry" (Appleton's Science Primer), and a London (England) book, published by Longmans, Green & Co., and entitled "Practical Geometry," by Thomas Tate.

PRACTICAL BOTANY.[1]

BY PROF. W. WHITMAN BAILEY, B. P., BROWN UNIVERSITY.

V.

LEAVES.

WE saw in the last chapter that leaves and buds bear a definite relation to each other. One pre-supposes the other. If we ascertain the position of the buds or branches on a stem or shoot, we at the same time learn the arrangement of the leaves. Thus leaves are found to be variously, though definitely arranged. They always "subtend" or stand beneath buds, at those points of the axis called the "nodes." There may either be a pair of them at a node, when they are described as "opposite," or one only at a node, when they are said to be "alternate," or lastly, more than two may be disposed in a circle or "verticil" at nearly the same plane. This is called the "whorled" arrangement. All these plans bear reference to such a disposition of the leaves as shall afford them the very best chance for their special work. Each is overshadowed as little as possible by the next above it. On the other hand, it shades as little as may be the one beneath. Thus, in the opposite arrangement the succeeding pairs cross or "decussate," so as to fall in the interval above the preceding pair. Instance, the leaves of maple. In the alternate plan, the leaves are spirally disposed, with the same object in view. See branches of elm or camellia. Any of our common wild lilies, or the white lilies of the hothouses, or the bedstraw, exhibit the leaves in whorls.

Leaves arise in what is called an "acropetal" succession, that is, they are necessarily younger as we approach the growing apex of the stem. Usually they are different in shape from the producing axis, with the tissues of which they are continuous. Most commonly they assume a flattened form, exposing an upper surface to the sky, and a lower to the earth. They are hence at right angles to the parent stem. The upper side is, as a rule, the denser. It is exposed to the glare of the sun. We find, therefore, that the lower side possesses a greater number of "stomata," the so-called "breathing pores" or adjustable valves by which the leaf acts. It must, however, be borne in mind that *all* green parts of plants possess more or less of these organs. In leaves

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[1] Copyright, 1888, by Eastern Educational Bureau.

like those of the pond lily, that expose only one surface to the atmosphere, the stomata are on that surface. In leaves like those of grasses or iris, they are found equally on both sides. In cactuses they are borne by the thickened stems, these plants being leafless. They may easily be shown with a half or quarter inch objective on many monocotyledonous plants, like the lilies, canna, or calla. To obtain them, strip off a small piece of the thin epidermis. It should, if properly taken, be clear and transparent. The stomata are seen to dot its surface. They consist of two cells separated in the middle by a lens-shaped space, which becomes larger or smaller by the contraction or expansion of the cells, and according to the necessities of the plant. These cells will be seen to contain grains of "chlorophyll" or leaf-green, while the pellicle itself is colorless.

Of course to study the leaf arrangement, leafy branches must be secured. In school work this can easily be done in the late spring and early autumn. The special study of the leaf itself, as a member of the plant system, can be pursued as well in winter. For this purpose it is well during the previous summer to collect vast numbers of leaves of all kinds. No organs present such an infinite and charming variety. As children are natural collectors, they will gladly do this work for the teacher. Press and preserve the leaves carefully; then when the time comes, use those which seem best to illustrate outlines, margins, and composition. In this connection, be warned that figures in textbooks, however accurate as drawings, exhibit only *types*. One must not expect to find, as many pupils hope, all leaves referable to these representations. It may be that some leaf will prove so aberrant that the pupil will be compelled to combine terms in its description. Remember, too, that some plants show not only different arrangement but great diversity of form in the foliage of the same stem. Instances, the sassafras, the mulberry, and certain oaks, and *Compositæ*. In such cases, we must note the differences.

Let us now suppose that we have some leaves before us and are asked to describe them, what is the plan of procedure? If the leaf is detached from the main stem we ask:

Is it simple or compound?

A simple leaf is one that consists of but one "blade" or flat expansion, the leaf proper. It may be "entire" or deeply segmented. It may or may not have a "petiole" or stalk of its own. Frequently among Dicotyledons, it has at base two lateral appendages, distinct or confluent with the stem, called "stipules." These are not essential. They are well seen in begonias, roses, clover, and the common pea. If the leaf is stalkless we call it "sessile." An example would be the leaf of the common tradescantia or "wandering Jew."

A compound leaf consists of *one*, or more, commonly *several* or *many* blades called the "leaflets." Examples, the rose, locust, common pea, and horsechestnut. The orange and barberry have compound leaves of only a single leaflet; so has our Japanese Ampelopsis, in which it falls from the long petiole, which later itself drops from the axis. Such leaves are known to be compound by the joint between the petiole and blade. Our western species of barberry indeed, in some cases (the garden *Mahonia*) show a number of leaflets, as if extending the plan.

Compound leaves, like simple ones may have a common petiole and stipules. Besides these they often possess "partial petioles" and "stipels," i. e., stalks to the leaflets and little stipules between them.

We will suppose in this chapter that we have only to deal with simple leaves. We address then a series of questions, thus.

1st. What is the "Venation" or veining? It will be netted or parallel, but each of these larger classes is subdivided. When there is a central vein or "mid-rib," with veinlets passing from it towards the margin, it is called "pinnately" or feather-veined. Examples, the leaf of a chestnut or oak, or oleander, or orange. But in a maple or grapevine leaf we will see a number of veins of nearly equal prominence radiating from the base. Then we say the leaf is "palmately" or "digitately" veined. Too much stress cannot be laid upon this matter of venation. Upon it depends the right conception of compound leaves.

Parallel veined leaves either have the veins passing from base to apex of the leaf, when they may be called "basal nerved," or from the mid-rib in straight or curved lines towards the margin, when they are termed "costal-veined." A palmetto leaf shows still a third form of parallel veining. The venation may then be presented in a tabular view.

1st. Netted Veined	A. Pinnately, (chestnut, oak). B. Palmately, (maple, grape).
2d. Parallel Veined	A. Basal-nerved, (grasses, lilies). B. Costal-nerved, (canna, calla). C. Radiated-nerved or "flabellifform,"palmetto.

We reserve for another paper the discussion of the manifold shapes of leaves and their segmentation.

THE riches of the commonwealth
Are free strong minds, and hearts of health;
And more to her than gold or grain,
The cunning hand and cultured brain.

—WHITTIER.

BUSY WORK.

MENTAL ARITHMETIC FOR SECOND YEAR.

BY E. E. KENYON.

ANNIE is eight and a half years old, and her brother James is twelve. How much older is James than Annie?

One day, James went fishing, and he took Annie with him. The brook was 40 yards from the house. How many feet was that?

Annie took with her, her doll, which was a very nice one. Her mamma had paid $1.50 for it. She also took a piece of silk to make the doll a dress. The silk was worth 40 cents. How much were doll and silk worth?

Annie was seated on the grass and at work with her needle in just three minutes after they reached the brook. But it took James one-fourth of an hour to bait his hook and get all ready to fish, because something was the matter with the line. How much longer was James in making his preparations than Annie?

"Now," said James, "we must not talk." How many words did James speak?

Pretty soon James caught a fish weighing 1½ pounds. How much could he sell it for at 8 cents a pound?

The fish had five fins, a tail and two eyes. How many scales had it?

(Children should learn to know when the data for a solution are incomplete, or totally lacking.)

"It will take ten minutes to clean the fish," said Annie, "and twenty minutes to fry him. Mamma likes to have supper at six o'clock. When must we go home, James?" What was James' reply?

James looked at his watch and told Annie that it was just five o'clock. Allowing two minutes for the walk home, how much longer had they to stay?

The skirt of Annie's doll's dress was half a yard around. She had hemmed all but two inches of it when it was time to go home. How many inches had she hemmed?

Annie did not work steadily. She stopped nine minutes to watch a bee, and five and a half minutes to tease a beetle with a stick. How long was she idle?

Annie and James started home at 5.28. They had been out just an hour. At what time did they set out?

HINTS FOR THIRD YEAR.

What is the date?

I have a little namesake who was born this day, 1885. How old is she today?

When will she be five years old?

How old will she be on this day, 1891?

When she was a baby, I sent her a cloak of pale blue basket cloth, worth $5.50, and a little hood of pale blue plush, worth $1.75. How much did both cost?

She lives in Chicago, a city that is about 1,000 miles from here. Buffalo is about half as far. How far away is Buffalo?

Her father was in Buffalo at the time, where he stopped on his way to New York, to transact some business with the captain of one of the big boats that bring corn, and wheat, and cattle, and dressed beef from Chicago to Buffalo. How many lakes do those boats sail on?

The boat that Captain Jones had in charge had neither sails nor paddle-wheels. How do you think it went? That is something for you to find out and tell me some day when we are talking about boats.

Nellie's father paid $14 fare from Chicago to Buffalo, and $17 from Buffalo to New York. His berth in the sleeping-car for two nights cost him $5. How much did the whole journey cost?

I will tell you his name before we go any further. It was Mr. Thompson. He spelt it T-h-o-m-p-s-o-n. How many letters?

He came to New York to buy machinery for his gold mine in the Rocky Mountains. Among other things, he bought a very fine pair of scales for $125. They were so delicate that a glass case was necessary, to protect them from the dust. He paid $4.90 for the case. How much did he pay for both?

The express company charged him $6.10 for taking the scales and case to the mine. Add that to the cost.

The reason the scales were made so delicately was because they were to weigh the gold in. What kind of weights were used?

A mine is a cave in the ground made by taking out coal, or some kind of ore. There is a coal-mine in Pennsylvania where they take out ten tons a day. How much coal will they mine there this month?

Not 300 tons, because they do not work on Sunday. Leave out Decoration day, too. Four Sundays this month. How many work-days? And how many tons?

Digging in mines is dangerous work. Many miners are killed by the caving in of walls which they do not support strongly enough, by the generation of gas, and by other accidents. They ought to be well paid for risking their lives. Suppose a miner were to get $50 a week, and it cost him $10 a week to live. How much could he save in ten weeks?

How long would it take him to save $4,000?

But instead of this, these men are very poorly paid. Some of them receive only 75 cents a day. How much is that a week?

Ores are different kinds of rock, containing gold, silver, iron, copper, lead, etc. How many things have I mentioned that come from mines?

There are still other useful things that we dig out of the earth, but we will go back to my namesake. Nellie has a brother three and a half years older than herself. How old is he?

Mr. Thompson's mine is worth $40,000. He says half of it belongs to Nellie, and half to little Eddie. How much is that for each?

Some mines are much more valuable. Suppose Mr. Thompson had two mines; one, worth $3,000,000 for Eddie, and one worth $5,000,000 for Nellie — how much could he sell them both for?

Yes, if he sold without loss. But if he lost one-fourth of their value ——?

Out of one hundred pounds of rock from his mine Mr. Thompson gets one ounce of gold. How much ore is required to yield him a pound of gold? Not avoirdupois weight.

What would Mr. Thompson's mine be worth if it were three times as valuable?

How much would that be for each of the children?

Eddie can run errands for his mamma. One day she sent him for one and a half pounds of cheese at 11 cents a pound. What did that come to? Yes, the grocer made Eddie pay the extra half-cent.

Eddie had a half-dollar, with which to purchase the cheese. How much change did he receive?

On the way, poor little Eddie fell and left a piece of his cheese in the mud. The piece weighed one-third of a pound. How much cheese did he take home to his mother?

What was the piece worth that he lost?

He also lost one-third of his change. How much had he left?

His mother did not scold him a bit, but washed the mud off his hands and kissed him, and sent him back to try to find some of the lost change. He found six cents. What part of the amount lost was that?

Eddie is saving at the rate of three cents a week to buy Nellie a twenty-five-cent picture-book. How long will it take him?

He had saved twenty-one cents at the time of this accident. How long had he been saving?

His mamma said that he must pay for the lost cheese, and took the money out of his bank. How much did that leave him? Yes, she made him pay the extra third, just as the grocer had done. But she said that if it had been two-thirds she would not have made him pay it. How much longer did Eddie have to save for the book?

METHODS IN GEOGRAPHY.[1]

(*Second Series.*)

V.

BY LARKIN DUNTON, LL. D., AND MISS L. T. MOSES.

NATURE LESSONS — SECOND YEAR.

The Ocean.

THE study of the ocean may begin with the general observation of the water itself, or with the outlines of the shores. In either case, one can lead the attention logically from one to the other. We will suppose the lesson to begin with the observation of the forms of land and water made by the irregularity of the shore line.

The children and teacher, from the schoolhouse or some other good place of observation, look at the line where the land and water meet. It is best to do this at high tide. The children are directed to look from a certain place, pointed out by the teacher, to another place, also pointed out very clearly by her. For this observation some high place is best, as the children can thus see the line more clearly. They are told that they must look most carefully, as they are to draw the shore line tomorrow just as it is with all its points and curves. Today they are to study.

The teacher points to a well-known part of the land extending into the water, and asks the children its name.

"O Miss Foster, don 't you know that is Fox Point?"

"Look, Amy, and think why it is called a point."

All the children look and conclude that it is called a point because it goes out like a point into the water.

"But see! at the north, that high rock is land and it goes out into the water."

"That is Pine Head; but really it is like Fox Point, only it is high and rocky, and Fox Point is low and made of gravel."

"Miss Foster, I think the land is a point when it goes out into the water, so," said Lucy, making a point with her two fore fingers.

"But how about Pine Head, Lucy?"

"Perhaps a high, rocky point is a head, Miss Foster."

"Good enough for a book, James. That is exactly the truth of the matter. Now all look and see if you can find any other points, or heads, on our shore line."

[1] Copyright, 1887, by Larkin Dunton, and Miss L. T. Moses.

"Can a very small point of land be a point, Miss Foster?"

"Certainly, Jenny, it may be too small to have a name of its own; but it is still a point, if it goes out into the water, and grows narrower and narrower to the end."

"Then there is a point between Fox Point and the sail-boat, Miss Foster."

"Right. Now you may count all the points you see between the lighthouse and Pine Head."

Most of the children find four points. But Fred is sure he sees five. On being questioned, he thinks all the land as far as they can see is a point, as it is rather low and extends out into the water.

The other children agree with Fred. But Miss Foster says the land is like a point, except in one thing, and they may think what the one thing is.

"I know, Miss Foster. It has houses on it."

"You did not think enough, John. It is just the land itself we are to think about."

"It could n't be the houses, for there are bathing houses on Fox Point," said Willie.

"It is that the land we stand on and that on which the village stands is too large, Miss Foster."

The children agree that Nellie is right, and are told that a large point is a cape, and are asked the name of the place where they are. They say it is Cape Haven. They now tell in what a point, head, and cape are alike, and in what they differ.

The islands that are to be seen are now named; and the children are directed to think in what the point, cape, and head are alike, and then to tell just how the islands differ from these.

"The points, heads, and capes go out into the water, but the islands take a plunge."

"Ned has the idea, but Mary may tell the difference."

The points, heads, and capes have water partly around them; but the islands have water all around them."

In this way any other forms, as the peninsula and neck, may be developed, if any are before the children. Afterwards the indentations may be seen, described, named, and compared as to their likenesses and differences.

On their return to school the children may draw the coast line. The inaccuracies should be found and corrected by a more careful study on the next visit.

Another day, the visit to the seashore is for the purpose of making observations on the height of the water at ebb tide, and on the sandy beach, the rocks, and the waves. The shore line is to be compared with the line made on the day of high tide, when the outline of the shore was studied. The children observe that the wet shore seems much wider where the beach shelves off, than where the rocks of Pine Head sink almost straight down into the water.

The children are directed to think what time of day it was, when they came to study the shore line; and they remember that it was half an hour before the time for school to close, as it is now. They are asked how the tide was then. And when they say it was high tide, then they are asked how it happens that the tide is low at the same hour it was high last week.

Nearly all the children look a little puzzled; but Charlie thinks he knows about it, for he heard his father and his older brother talking about it at noon. His brother is in the first class in the grammar school and he is studying about the tides. His father talked about the moon and the spring tides. As it is almost summer, Charlie thinks they will soon talk about summer tides.

"I think, Charlie, you had better watch and think with the rest of us. I am sure none of my boys and girls will want any one to tell them what they can find out for themselves by watching. How many would prefer to find out about the time of high tides yourselves?"

The children unanimously agree that they will find this out themselves. They agree also to try and find out how long the tide runs up, how long it runs down, and whether it stays high tide some time, or begins to run down as soon as it has come up. They also think they would like to see whether it remains low tide a while or begins immediately to run up as soon as it is low.

"Now we will go down on the beach and see some things that we could not see at high tide; and some other things, too, we will see before we go home. Be sure to look at the sand, for I often find that is worth seeing. We will walk round to Pine Head, and go out on the rocks there and look at them and at the water. I would like to have each one of you find out whether the tide is going out or coming in. Be very, very careful not to go nearer the water than I do. Now come, and keep your eyes wide open."

"Miss Foster, may we pick up things to show you," asked Albert.

"Of course you may. That is why you brought your baskets."

The children walk or run along the shore looking eagerly around, picking up bits of sea weed, smooth pebbles and shells, and even pulling up some coarse grass, that they find far up the beach. Jenny runs to a pile of drift and selects a small, smooth, pine stick that has been worn by the waves, and adds it to her treasures.

They all come to the foot of Pine Head, and here they stop, while the larger children are asked to help the little ones up the rocks. The teacher herself allows two of the youngest to go up with her. At last they are all seated high on the rocks, quite out of reach of the breakers that lash below them.

"Would you rather show me what you have found now, or look about first, children?"

"Show you what we have found! Please may we, Miss Foster?"

"Certainly, will you show me yours, Harry?"

"I want to show you this first," said Harry, holding up a shell in which was a crab.

"That is a hermit crab, Harry. He always lives in the shell of another creature. When he has grown too large for this shell he will move into another."

"He carries his house on his back. That is a strange way to live," said James.

"Very strange, James. Have any of you found any other animals?"

"I think I have, Miss Foster," said Willie holding out a snail.

"You are right, Willie. Who else has a snail like Willie's?"

Several children had them, and after they had been directed to put the snails where they could watch them, they were asked to show other animals.

"I have n't any more animals, but I think an animal once lived in this, another in this, and still another in this," said John, showing in turn a limpet, a muscle, and a quohog shell.

"It is too bad, but we must not stop to see any more of your treasures, children, for I must not keep you much longer, or all your mammas will be anxious. You may all look at the rocks and then at the sea. Take one of your good looks that will hold the picture till morning and longer."

"May n't we look at the sky and the clouds, Miss Foster?"

"I thank you, Kate, for reminding me. I hope none of you could help looking at that lovely sky."

The children looked at the water-worn rock; but they looked longer at the waves coming in and breaking over the rocks or curling over in a line of white foam on the beach. As they raised their sweet faces upward to the deep blue sky, flecked here and there with white clouds, their earnest looks, with a deep breath from one or two more sensitive to the beauty of nature, made their teacher feel sure that the deep love for nature and its glorious beauty would help keep their thoughts and lives pure in the years of temptation and struggle which must come to each.

"Baskets up! Start for home! Forward, march!" said Miss Foster, and every little one was on his feet and had started as she finished.

They had a brisk race over the beach, and a few minutes after four they were all on the main street, where they bade their teacher and each other good night and hurried home, each bearing his treasures from the beach.

The next morning the children told of the hard sand with its fretwork made by the retreating waves, of the little pools they were obliged to walk around, and of the dry, loose sand farther up the beach. They showed their shells again, except the snails, which they had left in a pool, and told of the two or three beach birds that ran before them when they first went to the beach. Afterwards they showed the seaweed with the bubbles, as they called the swellings filled with air; and these they snapped for sport. Some of the children had pieces of coarse grass which they showed.

When this had been done, Jenny showed the piece of drift wood, and the children all remembered that they had seen the pile from which she got it. Jenny said it was smooth like the pebbles.

"Now shut your eyes and bring back the picture of the rocks, the water, the beach, the breakers, the far off water, and the sky. You may think and tell me anything about it which you wish."

So the children told, in order, of the rocks worn smooth and hollowed out by the waves, of the waves which beat against the rocks and then rolled back in foam so soft and white, and of the roar of the waves like thunder. They told of the breakers on the beach so green, and of the white line of foam that ran along their tops and then broke over them, something like the little fall in the river over the dam. And then they told of the waves far out with the bright sunshine dancing over their tops, till they seemed to laugh for joy and try to leap to the sun. They told, too, of the vessels and boats, near and far, and of the blue sky with its white clouds, like the white sails of the boats, so that above and below was a blue sea with white sail boats on its surface.

The children now listen to the sound of the waves and tell what other things make sounds like them. They look off once more at the surface of the sea, and tell what the waves are like in the sunshine, what the movement is like as the long ranks break on the shore, and any other thoughts suggested by their looking at and studying the sea.

After this the uses of the sea to them and other persons, for pleasure or commerce, as far as their knowledge goes, are described.

Now once more the eyes are closed, that each one may see and tell what he likes best in the picture of shore and sea and sky. They add to this the things they particularly want to watch at their next visit, not forgetting the tide. And finally the teacher reads to them Tennyson's poem beginning, "Break, break, break, on thy cold gray shores, O Sea," or some other which is beautiful and suitable. The children will wish to learn Tennyson's poem, and the learning of it will be a good language exercise.

FOUR FRIDAY AFTERNOONS ON HISTORY AND GEOGRAPHY.

BY RUFUS ALDRICH.

I.

THE HUDSON RIVER AND TICONDEROGA.

"SOME time ago I promised you that I would describe my trip up the Hudson and tell you what I saw and heard at Ticonderoga. Next Friday afternoon we will take this trip together. I should like to have you, between now and then, think of the route we should take from New York City to Ticonderoga, the various points of interest that we should pass, the history connected with the different places, and learn all that you can about the Hudson River and Ticonderoga."

During the following days the pupils were often heard asking each other about the Catskills, the items of interest at West Point, Sing-Sing, and other places, and studying their histories and the encyclopedias for the special points of interest. By Friday afternoon they were all much interested and anxious for the hour of the lesson to come. The teacher began by asking whether they were to go to the railroad station or how they had decided to make the trip. They answer in chorus, "Go by boat." The teacher then asks what boat they shall take, and is told the day boat: that they may see the scenery. Something is said about the magnificence of the steamers upon the Hudson River, and the teacher finds that two of the pupils have made the trip themselves. She next asked one of the boys to draw a map of the Hudson River and to indicate the mountainous regions near it. She then told them that the river is about 300 miles long and asked them in whose honor it was named. They spoke of the various points of interest to be seen in passing up the river, making it as graphic as possible. They spoke of Hoboken and Yonkers, and told for what Sing-Sing is noted. One of the girls, who had been up the river, gave a very pretty description of the palisades, and the teacher told them something of the height of the towering rocks on the west bank of the river. West Point was the next place of special interest and the boys had plenty to tell of the military academy there and the life of the cadets. In speaking of the fortifications built at West Point during the Revolution, they were reminded that they had passed the memorable Stony Point and the spot two and a half miles below where Arnold arranged with André the details of his plot and where André was subsequently captured. As they passed on, many points of interest, both historical and natural, were spoken of, and much was said of the wonderful beauty and grandeur of the scenery in the highlands and of the Catskill Mountains. Newburg, Fishkill, Poughkeepsie, Hyde Park, Kingston, and so on to Albany, the various towns were mentioned and discussed in order and, as spoken of, one of the boys located them on the map drawn upon the board.

Considerable time was spent upon Albany and then the teacher asked whether they should leave the river there or not. Several of the scholars said that they could go no farther in boats, but others said that boats do go farther up the river. The teacher then told them that this line of boats went no farther, but that schooners and some steamers could go to Troy. She then asked if any of the pupils knew what railroad they should now take. Two or three answered the Delaware and Hudson. From Saratoga they went to Caldwell and there took the boat upon Lake George. One of the boys had been down the lake and he said that there were two boats, the "Horicon," and the "Ticonderoga." They decided to take the "Horicon." The teacher told them that the lake is sometimes called Lake Horicon, but that its Indian name was Caniaderioit, that it is thirty-six miles long and from one to three miles in breadth, and that it contains about 300 islands and is a very beautiful sheet of water.

When they reached Ticonderoga, in their talk, they examined the ruins, through the descriptions of the teacher and the boy who had been there; and the history of Fort Ticonderoga was given. The teacher then told them that when she visited Ticonderoga, after seeing the ruins, she took a carriage and drove to the Dixon Mines, where the graphite for the Dixon Graphite pencils is obtained. At this point Willie exclaimed: "We went there, too," and he was asked to tell what he saw.

Willie:—There was a small settlement of about thirty families and we stopped at the house of the Superintendent for dinner, for we were decidedly hungry. After dinner we went down into the mines, where they were blasting the rock. I have forgotten how far it was.

Teacher:—About fifty feet, I think. A steam drill was used to bore the holes into which were put explosives for the blasting.

Willie:—There was a car track to bring out the ore. Next we went into the mill which was near by, where they had a large steam engine with which they crushed the rock and the man said the ore was stamped free from the rock, under water, but I did not understand why they did it under water.

Teacher:—They pulverize it by "stamps" under water in order that the particles may float off on the water, and then the particles of graphite were separated from the heavier material, the debris, by "floating"; that is, a series of tubs are arranged so that the water flows from one another. The running water takes off the graphite because it is lighter, while the debris, which is heavy, sinks. These tubs stand on different levels, and each one has a pipe about a third of the way from the top which carries the water into the next tub. Up and down the sides are holes in which plugs are inserted and at the bottom is a large gate. As the water flows gently from the highest tub into the next, the coarsest and heaviest particles sink to the bottom, then the next heaviest particles sink to the bottom of the next tub and so on. On reaching the last tub, the powder, being twice as heavy as water, and sinking in it if undisturbed, has so far settled that the water flows off, at the top, almost clear. After the water is stopped and the powder has been allowed to settle, the clear water is withdrawn by removing successively, beginning with the upper one, the plugs in the side of the tubs, care being taken not to agitate the deposite dust at the bottom. This finished, the graphite dust is removed through the gates at the bottom. It is impossible to do this without the use of water. This work is only partially done at the mills near the mine. The half prepared product is packed in bags and carted to the lake side, and loaded upon a boat and towed to Ticonderoga where is the Dixon finishing mill. At this mill is a great variety of machinery, stamps, buddles,—vats for washing the ore; patent concentrators; drying cylinders; drying ovens; coarse screens and fine screens, all revolving by water power, and step by step the ore is refined and purified until the separation is perfect and the "sheep" set apart from the "goats," the prepared graphite, purified to the last degree, and reduced to an inpalpable powder. It is now ready to go to the lead-making room of the pencil factory.

It is a wonderful process and it takes a great deal of labor to make these little pencils, does it not? But the work is not nearly done yet for we have only obtained the purified powder of graphite. The pencils are made at the factory in Jersey City. Do you remember the lesson we had on lead pencils last year, and what we learned about the community of workers on the other side of the ocean?

Grace:—Yes, they were foreign pencils, but these are American, the Dixon graphite pencils.

Mabel:—Did you go to Jersey City and see them make the pencils?

Teacher:—Yes, I felt as if I wanted to see how they made that fine powder into the hard and soft pencils that we like so much and if there is time I will tell you. A peculiar kind of pipe-clay is imported from Germany and mixed with the graphite. This clay is subjected to the "floating" process and then the finest is mixed with the graphite, in proportions varying according to the degree of "hardness" required. The more clay used, the "harder" the pencil. The graphite and clay are mixed together with water, to the consistency of thick cream, and the mixture is fed to the grinding mills, which consist of two flat stones about two feet in diameter, placed horizontally, the upper one only running. Between these the mass is ground like paint. This is enclosed in stout canvas bags, and the clear water forced out by hydraulic pressure, When taken out of the bags it is like thick dough, and is next taken to the forming-press. This is a small vertical cylinder, having a solid plunger or piston, driven by a screw. A plate is inserted in the bottom, having a hole just the size of the lead desired, and the graphite is slowly forced through the hole, exactly as a stream of water is forced from a syringe, coiling itself round and round on the board placed underneath, until it looks like a coil of wire. The coil is then divided into lengths sufficient for three pencils, and is pressed flat and then hardened by placing in a crucible and baking in a kiln. The leads are now ready for the wooden cases. Does any one know what kind of wood is used?

Frank:—For the cheapest pencils pine is used; for the common grades red cedar, and for the standard grades, cedar from the Florida Keys.

Teacher:—We will not discuss the wood or how it is obtained now, but perhaps we can take that up sometime when we make our winter trip to Florida. The wood comes to the Jersey City mills in strips the length of a pencil, wide enough to make six pencils and half the thickness of a pencil when finished. These miniature boards are passed under a cutter which cuts six little grooves, round or square, for the leads and smooths their faces by the same stroke. The grooves are then filled with the prepared leads, then covered with another strip of wood grooved to match and the two parts are glued together. These are next pressed, smoothed, and separated, making six pencils out of each strip. They are then counted by a counting machine. The pencil is now dyed and marked with its proper grade and is ready for sale.

As our time is up I will merely say now that I should like to have you write out an account of "How the Dixon lead pencils are made" for Monday's English lesson, and do not forget that they are not made of lead at all but of graphite. Why are they called lead?

For next Friday's lesson, we will take Gray's Peak and the mountains of Colorado. Learn all you can about the subject and think carefully what it would be possible to see from the summit of that high mountain and tell us all you can about it. I hope we shall have as interesting a lesson as this one has been.

THE STUDY OF SYNONYMS.

BY RUTH E. MOWRY.

ILL-WILL, ENMITY, AND ANIMOSITY.

1. ILL-WILL is derived from the Anglo-Saxon.
   ENMITY and ANIMOSITY are derived from the Latin.
2. All three refer to hatred.
3. ILL-WILL may represent the minimum of feeling, being a willing or wishing of ill to another, generally without disposition to be active in bringing the evil about.
   ENMITY is a somewhat stronger feeling, and it often gratifies itself in trifling and cowardly ways.
   ANIMOSITY is more intense than ENMITY; it is is avowed and active, and what it does is more serious than the covert attacks of ENMITY or spite.
4. "That thereby he may gather the ground of your ILL-WILL, and so remove it."
   "'T is death to me to be at ENMITY."
   "How apt nature is to raise and maintain ANIMOSITIES against those, whose calling or person they pretend to find cause to dislike."

PERSUADE AND CONVINCE.

1. Both are derived from the Latin.
2. Both mean to constrain to yield.
3. PERSUASION is the result of the will, CONVICTION of the understanding. The latter is affected by argument, the former by other motives. We are PERSUADED to act and to behave properly: we are CONVINCED of truths and facts.
4. "Knowing, therefore, the terror of the Lord, we PERSUADE men."
   "That he may be able by sound doctrine both to exhort and to CONVINCE the gainsayers."

FEELING AND EMOTION.

1. FEELING is derived from the Anglo-Saxon, EMOTION is from the Latin.
2. Both refer to sensation.
3. FEELING is the weaker term and may be of the body or of the mind. EMOTION is of the mind alone, being the excited action of some inward susceptibility or feeling.
4. "Hath this fellow no FEELING of his business? He sings at grave-making."
   "As the young chief the affecting scene surveys,
   How all his form th' EMOTION'D soul betrays."

EDITORIAL.

HAS your school a flag?

THE faithful teacher is always honored.

IS education making the mind full or making it strong?

OUGHT not the schoolmaster to be a skilled workman?

ACCURACY and rapidity must never be lost sight of in arithmetic.

TEACHERS should always show respect for the schoolroom if they wish the children to do the same.

ANY teacher who will give a home lesson on the eve of a vacation, deserves to be prosecuted for cruelty to children.

IT is an excellent plan for scholars as well as rooms to exchange mental arithmetic and geographical questions and report results.

TEACHERS should remember that intellectual strength is a great power, but if not guided by moral force, the possessor may become a devil rather than a man.

A CHART of choice dates which you unroll day by day as new dates come up and with which you conduct frequent reviews, is one of the effective means for fixing these troublesome but important "pegs of history."

PRIMARY teachers do not always realize that their frequent directions to little children "to write the tables of 9's twice; the tables of 8's three times, and any other table two times," may be hard physical work. The writer heard a little girl eight years old complain recently, "It made my fingers ache the last half hour to write so much."

THE SUMMER SCHOOLS FOR TEACHERS. — The following note was received at this office a few days ago: —

Worcester, April 5, 1889.

EDITOR C. S. EDUCATION,

Dear Sir: — A friend of mine is urging me to attend a summer school. What advantage will it be to me in my regular school work?

Yours Truly,
M. S. PARTRIDGE.

Until within a few years the writer of this had never attended or visited a summer school. For several summers past he has devoted five weeks to summer school work and has seen several of the best, most efficient and most popular schools. He feels, therefore, prepared to say from his personal observations and often repeated expressions of teachers in attendance that these institutions are of the greatest importance to teachers of all grades. Primary school teachers, grammar school teachers, high school teachers, and professors in colleges have spoken in the highest terms of the advantages they have derived from these few weeks in which they have divided the time between special work of this sort and recreation.

The *best teachers in the land* are employed, and to come in contact with them is an inspiration.

The best methods of teaching are unfolded, and these cannot fail to be of great service to a teacher of whatever grade.

Special lines of study are pursued, and the sharp, well-disciplined mind of a teacher devoted for three or five weeks to special work with a special object in view will produce as large results as three or five months of study to the ordinary learner. Then, this is the best way of resting. To most persons rusting is not resting. Some healthy light work in agreeable lines, dividing the time with real recreation, such as can be found at the places where these schools are held, will inevitably return the tired teacher to the work of school refreshed, invigorated, and improved in every way. It is confidently believed that the summer school has come to stay and that in the survival of the fittest will be found great gain in them for the teaching profession.

IS your principal ready to help you? Have you tried him? Did you go to him last month when you were in perplexity about the Wilson boy? You were afraid he would think you weak? What a mistake you made. He was ready to sympathize with you and he would have considered your question a sign of confidence and respect in his judgment and greater experience. Assistant teachers will do well to consult their principals more frequently.

IT was a mild, pleasant, sunshiny spring day. The air was balmy and inspiring. Nature was in a glad, happy mood, and many remarked, "Our departed brother was like this glorious day." A long procession filed through the streets, made up of gray-haired men, vigorous adults, both women and men, admiring youth, and sad-eyed girls, all heads bowed with grief. The church was reached and seats and standing room completely taken by these devoted friends from towns and countries far away. What a beautiful tribute of love and respect, because each one had acted on his own individual impulse to be present on this sad occasion. How tender and appropriate the words uttered there by life-long friends, and responded to by sobs and tears, not from kindred alone but from associates and companions in the work. "How we shall miss him," was said, not in reference to wife or children or neighbors merely, but it was the felt voice of hundreds of teachers. "How much we loved and honored him we did not know fully till his sudden death," was the unanimous utterance of old and young, of children and parents, of teachers and friends.

Why this universal tribute of love? Because he had as a teacher been faithful, honest, hard-working, progressive, helpful, outspoken, generous, noble, and cheerful. Upon whom was this eulogy pronounced? Upon C. Goodwin Clark, late master of the Gaston School, South Boston, by his fellow teachers of Boston, and vicinity.

THE American Institute of Instruction will hold its sixtieth annual meeting at Bethlehem, N. H., July 8 to 11 next. This promises to be a large and unusually attractive meeting. Papers and discussions on the most important educational topics will engage the attention of the most distinguished educators of the country. Among them may be mentioned President Bartlett of Dartmouth College, Dr. William T. Harris, Senator Blair, Hon. T. B. Stockwell, Dr. James MacAlister, Prof. E. B. Andrews of Cornell, Hon. J. W. Patterson, and many others. Readings by that prince of elocutionists, Prof. J. W. Churchill. The railroads will give reduced rates from all points. The hotels have offered very low rates with the best of accommodations. The side trips present the most attractive excursions.

NUMBERS, common and decimal fractions, and percentage should be taught at first *objectively*. There are plenty of helps in the market now to assist busy teachers in teaching arithmetic objectively, so there can be no excuse on this score. Most of the new books on arithmetic recognize the importance of the illustrative method in this study as well as in natural history and geography.

TEACH your children to use their eyes to see the wonderful things constantly going on all about them.

HAPPY HOURS.

GREETING.

You are welcome, kind and gentle friends,
  Who throng this little room today,
But for the love of timid hearts
  Scan with no critic's eye, we pray.

We are but children; we have seen
  So few brief seasons come and go,
The oldest cheek among us wears
  But faintly yet youth's summer's glow.

Ours is the early seed-time now,
  The opening of the vernal spring;
Faint shadowed in the tender germ
  The fruit the harvest yet may bring.

Then view us with a partial eye,
  Forgive, forget, our faults, we pray,
And every friendly look and word
  Will kindly cheer us on our way. — E. J. D.

A SLEEPY LITTLE SCHOOL.

A funny old professor kept a school for little boys,
And he 'd romp with them in play-time, and he would n't mind their noise;
While in his little schoolroom, with its head against the wall,
Was a bed of such proportions it was big enough for all.

" It 's for tired little pupils," he explained, " for you will find
How very wrong indeed it is to force a budding mind;
Whenever one grows sleepy and he can't hold up his head,
I make him lay his primer down and send him off to bed!

" And sometimes it will happen on a warm and pleasant day,
When the little birds upon the trees go tooral-tooral-lay,
When wide-awake and studious it 's difficult to keep,
One by one they 'll get a nodding till the whole class is asleep!

" Then before they 're all in dreamland and their funny snores begin,
I close the shutters softly so the sunlight can't come in;
After which I put the schoolbooks in their order on the shelf,
And, with nothing else to do, I take a little nap myself!" — *St. Nicholas.*

BEING A MAN.

I CAN tell you how to be a man —
This is the way to begin.
Stop saying, "*I can't*," and say "*I can*," —
March up to your work with a good stiff chin —
That is the way to begin.

If you mean to be a man, you know
You must do the best you can.
When the tempter comes, you must speak up, "*No!*"
He 'll take to his heels if you talk to him so;
I 've tried it myself, and that 's how I know,
For *I 'm* going to be a man!

Yes, no more whining nor tears for me:
I 've left them out of my plan:
No falsehood, no words profane or low;
I turn my back on all *that*, you know,
When I start to be a *man*.

— H. H. M.

RECITATION.

(*By a Little Child, with appropriate Gestures.*)

THIS is east, and this way west,
Soon I 'll learn to say the rest;
This is high, and this is low,
Only see how much I know.
This is narrow, this is wide,
Something else I know beside.

Down is where my feet you see,
Up is where my head should be;
Here's my nose, and here my eyes;
Don't you think I 'm getting wise?
Now my eyes wide open keep,
Shut them when I go to sleep.

Here 's my mouth, and here 's my chin,
Soon to read I shall begin;
Ears I have, as you can see,
Of much use they are to me!
This my right hand is, you see,
This my left, as all agree;
Overhead I raise them high,
Clap! Clap! Clap! I let them fly.

If a lady in the street,
Or my teacher I should meet,
From my head my cap I take,
And a bow like this I make.
Now I fold my arms up so,
To my seat I softly go.

A FABLE.

THE mountain and the squirrel
Had a quarrel,
And the former called the latter "Little prig";
Bun replied,
"You are doubtless very big,
But all sorts of things and weather
Must be taken in together
To make up a year
And a sphere:
And I think it no disgrace
To occupy my place.
If I'm not so large as you,
You are not so small as I,
And not half so spry;
I'll not deny you make
A very pretty squirrel track,
Talents differ; all is well and wisely put;
If I cannot carry forests on my back,
Neither can you crack a nut." —*Ralph Waldo Emerson.*

EXAMINATION QUESTIONS.

Questions for Examination in Fifth Grade Public School No. 24, Brooklyn, N. Y., June, 1888.

HISTORY.

1. Mention four Acts of England of which the Colonists complained, and which led to the Revolutionary War.
2. Mention five important battles of the war, tell the place and state in which they were fought, and the party that was successful.
3. What was the last considerable military operation of the war?
4. Why did not the war extend west of the Alleghanies?
5. Who assisted the Americans? Who assisted the English?
6. To what nation did the valley of the St. Lawrence belong?
7. Did the Colonies become free from England?
8. Who was the first President, and whom did he choose for advisers?
9. What countries had the United States to make treaties with?
10. To whom did Louisiana belong at that time?
11. What important purchase was made during Jefferson's administration?
12. What did that purchase include?
13. Mention two causes of the war of 1812.
14. Mention four important battles of the war of 1812, and tell where each was fought and the successful army.
15. How was Florida obtained?
16. What territory was acquired as a result of the Mexican war?
17. State in not less than thirty words one or more causes of the Civil war.
18. What became of the slaves?
19. Give the event corresponding with the first sixteen dates in the course of study.

PENMANSHIP AND BUSINESS FORMS.

GRAMMAR GRADE NO. 2.

1. Write the capital letters.
2. Write Paragraph 1, P. 238, Swinton's Fifth Reader.
3. Order from Ivison, Blakeman & Co., 745 Broadway, New York, for Public School No. 24, the following books: Eight Geographies at $1.00; 6 Swinton's Fourth Reader at 54c.; 5 Comprehensive Dictionaries at 80c.
4. Make out a bill for the above, and receipt it. Make the date June 12 1888.
5. Also write a receipt on account for the money.
6. Draw the form of an envelope $5\frac{1}{2}$ x 3, and direct it to Ivison, Blakeman & Co.
7. You borrow $100 of James P. Hatfield. Write a note for the money. The note must be interest-bearing, and negotiable.

ARITHMETIC.

GRAMMAR GRADE NO. 5.

1. How many tons of broom corn can be raised from .85 of an acre, if 1.876 of a ton can be raised from 1 acre?
2. F. sold $\frac{2}{5}$ of his land, then bought $37\frac{3}{4}$ acres, and then had $112\frac{2}{20}$ acres. How much had he at first?
3. I paid 12c. per pound for a live turkey that weighed $11\frac{3}{8}$ pounds, and the waste in dressing was $\frac{2}{7}$ of its weight. How much a pound did the dressed turkey cost me?
4. A pile of lumber contains 96 boards 14 ft. long and 9 in. wide; 120 boards 16 ft. long and 13 in. wide. What will these boards cost at 2c. a square foot?
5. How many bricks $2\frac{1}{2}$ x 4 in. x 8 in. will it take to build a wall 86 ft. long, 25 ft. high, and 1 ft. 6 in. thick, deducting $\frac{1}{10}$ of the whole number of bricks as an allowance for mortar?
6. How many bushels in a bin of wheat 8 ft. long, 6 ft. wide, and $4\frac{1}{2}$ deep?
7. How many half-gallon jars can be filled from a cistern of water 5 ft. deep, 4 ft. long, and 3 ft. wide?
8. What is the difference in the size of two pieces of land, one being 25 rds. long and 21 rds. wide, and the other containing 1 A. 54 sq. rds., 15 sq. yds.?
9. The difference in time between two places is 2 h. 48 m. 50 sec. What is the difference in longitude?
10. How many rolls of paper 11 yds. long, $1\frac{1}{2}$ ft. wide will it take to cover the four walls of a room 12 ft. h. x 20 ft. l. x 16 ft. w.?

GEOGRAPHY—CLASS 2.

1. Five ships have arrived at the port of New York; the first from Smyrna, the second from Shanghai, the third from Tokohahia, the fourth from Batavia, and the fifth from Honolulu. What is the probable cargo of each?
2. Tell what you know of Australia.
3. Give a general description of the surface, soil, climate and productions of the Mississippi Valley.
4. Give a general description of the surface, soil, climate and productions of the Pacific Coast of the United States.
5. What does the United States export to and import from Canada, and through what commercial channels is the trade conducted?

SUGGESTIVE QUESTIONS.

Somerville, Mass., Jan., 1889.

GEOGRAPHY.—FIFTH GRADE.

1. Why is Geography an interesting study? How do you study it? What is included in this study?

2. What is a map? What maps have you studied? What are the most prominent features on a map?

3. Describe briefly the surface of the earth as far as you have seen it—or if you have not seen it—tell how you think it would look from a balloon if you could ascend in one from Somerville.

4. Draw a map of the vicinity of Boston. Draw a map of Massachusetts. Of North America.

5. Draw a profile of North America from east to west. Draw a map to explain a river basin and water shed. Draw a picture of a range of mountains.

6. Name some wild and domestic animals. Some important products. What constitutes the natural wealth of a country?

7. Name several occupations, and state what kind of country is best suited to each. What occupations on the sea?

8. What is the capital of Massachusetts? Of the United States? Who is the Governor? The President? The Mayor? What is the legislature for? Where does Congress meet?

9. What is the general shape of North America? What constitutes its corners? Name its coasts. What two great indentations? Two great mountain systems? Principal river systems?

10. Name the countries of North America. Chief cities. Principal products. Wild and domestic animals. Differences in climate.

11. What is the extent of the United States? Boundaries? Distances? Maine to Florida? North Carolina to California? Texas to Minnesota?

12. How can the surface be divided as to its physical characteristics? What are the several sections particularly adapted for? What are the great industries growing out of the natural conditions?

GEOGRAPHY.—FOURTH GRADE.

1. How can we study Geography? Where are the things we study about in Geography?

2. Why is it an interesting study? Name some of the things in Geography you have seen.

3. What has the air to do with Geography? What have the clouds, rain, snow, to do with it?

4. Tell a story about a rain-drop. What good does the rain do?

5. Where is salt water found? Where fresh water?

6. Draw pictures of all the forms of water you know. Draw pictures of forms of land.

7. How does the land slope near your school? Describe the country as you see it from the school, or as you have seen it in Somerville. Mould it, if you have a moulding table. Mould any forms of land you have learned.

8. Draw a profile view representing a journey from a river's bank up a gradual plain to a plateau, across three ranges of mountains and down an abrupt descent to the ocean — going from east to west.

9. Draw a plan of your schoolroom — of the school building — school grounds. Draw a map of as much of Somerville as you know and have seen. Locate on it public buildings, churches, or anything prominent.

10. Name the cardinal points or directions. How can they be found? Which direction does your seat face? On which side of the building is the front door? On which side is the boys' yard? Which yard is the most sunny? Which one does not dry up very soon after snow or rain storms? Why is it?

11. Name some animals that you know. Name some wild animals. Name some important plants or vegetables. Some fruits. Where do they grow? Name some that come from afar.

12. In what city — county — state — country — continent do you live? What is the shape of the earth? What other things are like it, as large or larger?

13. Name any cities you know of. Name any states, rivers, mountains, lakes, oceans, islands.

14. Where is the capital of the state? Who is the governor — the mayor — the superintendent of schools — the principal of your school — the school committee?

BOOK NOTICES.

HYGIENIC PHYSIOLOGY. With Special Reference to the use of Alcoholic Drinks and Narcotics, being a revised edition of the Fourteen Weeks in Human Physiology. By Joel Dorman Steele, Ph. D. Enlarged edition with selected readings. New York: A. S. Barnes & Co. Price, $1.00.

This excellent work belongs to the Pathfinder Series of temperance physiologies, prepared under the supervision of the department of scientific instruction of the Woman's Christian Temperance Union of the United States, with special reference to the instruction to be given under the recent temperance legislation obtained in the various states through the influence of Mrs. Hunt and her colleagues. The work contains all the excellent and popular features that have given Doctor Steele's Science Series so wide a circulation. Among them are the following: Colored lithographs, blackboard analysis, practical questions at the close of each chapter, and carefully prepared selections upon the physiological action of alcohol, tobacco, opium, etc.

FREYTAG'S DIE JOURNALISTEN. A Comedy in four Acts. A critical translation. Cambridge: Waterman & Amee.

In this play the translator has given a literal translation wherever it was consistent with good English. He has made it his chief aim never to sacrifice idiomatic expression in conveying the meaning, to literal translation. The comedy is a German play of considerable merit.

A NEW GRADED METHOD IN ENGLISH GRAMMAR. Complete in one volume. By M. D. Mugan, Principal St. Louis Public Schools. The Ingerson Publishing Company. 1889. Bound in cloth, with brief letter-writer, 40 cents. Wholesale to teachers, 25 cents. The work complete in pamphlet form, 5 cents.

This method aims directly at teaching language through the medium of the science. The author feels confident that grammar is so wonderfully simplified and the work is so nicely graded in this little pamphlet that children in the Third Reader will find no difficulty in comprehending it.

THE CHORAL BOOK. Translated by Friedrich Zuchtmann and Edwin L. Kirtland. Boston: Ginn & Co. 1889. Price, 70 cents.

The Choral Book consists of ninety choice choral pieces which have proved their quality by centuries of use in the homes, schools, and churches of Germany. The tunes are unchanged by a single note, while the hymns have been translated with religious fidelity to both sentiment and music. The matchless harmonies of these tunes should serve to establish the elevated musical idea which was possessed by the masters who composed them.

STICKNEY'S READERS. By J. H. Stickney, author of "The Child's Book of Language," "Letters and Lessons in Language," etc. Boston: Ginn & Co.

Some of the good points of this most excellent series of Readers, are that they are based on the right idea of what a reading-book should be, they secure the best results at the least expense of time and effort, and they inculcate a love of reading. They are the fruit of many years of successful experience, they supply reading-matter enough so that no supplementary series is necessary, and they have been adopted by many large cities.

1. A FIRST READER. The type is large and clear, the illustrations numerous and excellent, the grading good. the style bright and vivacious. Introductory price, 24 cents; mailing price, 30 cents. Pp. 103.

2. A SECOND READER. The selections are wholesome in tone and well written. Introductory price, 32 cents; mailing price, 40 cents. Pp. 198.

3. A THIRD READER. Stories continued through several lessons are occasionally introduced to prepare for the reading of books. Introductory price, 40 cents; mailing price, 50 cents. Pp. 248.

4. A FOURTH READER. The selections in this Reader are mainly literary in character, and are selected with exquisite taste. They are in the narrative style, which makes attractive reading. The type is excellent, the illustrations fitting, the paper good, and the binding neat and strong. Introductory price, 50 cents; mailing price, 60 cents. Pp. 362. Altogether, one of the most attractive series of Readers. They deserve a wide use.

ELEMENTS OF COMPOSITION AND GRAMMAR. By Gordon A. Southworth, Master of the Prescott School, Somerville, Mass., and F. B. Goddard, Ph. D., (Harvard). Boston: Leach, Shewell & Sanborn.

As its title implies, the design of this book is twofold: (1) to provide for children such training in the ready use of good English, as they can never get by the study of grammar alone; and (2) to teach them the essential facts regarding the structure of sentences, and the kinds, forms, and uses of words. Material for this training is given in abundance and variety in the first nine chapters, while the rest of the book presents the grammar of the language so thoroughly as to be intelligible to children. The book is the work of practical teachers, and grew out of the best work in the schoolroom. It deserves the most careful attention from all teachers of this important subject.

Common School Education,

DEVOTED TO THE ART OF INSTRUCTION.

Vol. III. JUNE, 1889. No. 6.

GREENWAY COURT AND MY LORD FAIRFAX.

BY ADELINE A. KNIGHT.

THE Century, in a recent, finely illustrated article upon Washington at Mt. Vernon, publishes a shadowy print of "Thomas, Sixth Lord Fairfax, of Greenway Court."

A more important manor by far in the minds of old Virginians was Greenway Court than Mt. Vernon. Not of so much interest to the entire country, of course, as was the latter while the general of the continental forces was slowly working his way to success; but Greenway Court possessed another kind of value—that of being especially patrician, and of being the retreat of the best blooded of all Virginia gentlemen of the olden time.

But who was this farmer-lord, Lord Fairfax?

Fairfax was a near relative of the rash but brave General Tom Fairfax, of the armies of Cromwell. But his memory was not charged with the death of Charles I. He was absent; and when his name was called among the rest, there was a deep silence. In the midst of this silence, however, was suddenly heard the voice of a woman from the gallery. "Cromwell, thou art a traitor!" cried the voice of Lady Fairfax, "the General has too much wit to be here!" The Lord Fairfax of Greenway Court was the grand nephew of the general of the commonwealth forces. He was born in the beginning of the eighteenth century; in due time became an officer of the Blues; held fans for maids of honor; and was so intimate with Addison that there is a tradition that young Fairfax wrote one or two numbers of the Spectator.

Fairfax grew tired of town and resolved to marry and retire into the country, for in those days to this complexion did the greatest wits and beauties come at last — a long lifetime among the ancestral oaks. Absentee landlordism was unpopular. But upon his marriage morning, when the young Lord Fairfax went in great state for his bride he found her house in confusion and the young lady safely married to a duke, who had espoused her with as much haste as the Duke of Hamilton married the beautiful Miss Gunning.

After this episode men did not delight him nor woman neither. He remembered in his melancholy that from his mother, Lord Culpepper's daughter, he inherited land in America, lying between two streams called the Potomac and Rappahannock from mouth to source. He determined to go and see them; and leaving the splendors of the English court he came to Virginia, never to leave it any more.

At Belvoir, the seat of Sir William Fairfax on the Potomac, he made the acquaintance of a boy named George Washington, a relative of Lady Fairfax. The great London visitor took a fancy to Washington, told him a hundred stories, and finding out that surveying was his favorite pursuit asked him if he would not like to lay out his lands beyond the Blue Ridge. The offer was very thankfully accepted; and in March, 1748, young Washington and William Fairfax, a son of the owner of Belvoir, passed the Blue Ridge at Ashby's Gap, forded the Shenandoah and encamped upon land in the valley of Virginia, whereupon afterward rose Greenway Court. This may be seen from Washington's journal. He was but sixteen, yet all his entries of movements and projects were as accurate as in after life. The young surveyor went as far as the south branch of the Potomac, surveying carefully all the lands, making sometimes, he says, as much as six pistoles a day. This expedition gave to Washington that experience and knowledge which soon afterwards procured him the post of lieutenant, commanding at Fort Loudoun at Winchester, then sharing with Fort Cumberland the perilous sentinelship of the border. The valleys of the West were then ravaged by the French and savages; the most terrible massacres were of every-day occurrence; men lived in a perpetual dread. All along the Shenandoah life was "not worth a purchase"; men went in peril of their lives from day to day, ready, at the least warning, to fly the region and, passing the Blue Ridge, abandon the accursed ground forever.

It was at this crisis that Washington was placed at Winchester, and directed to perform impossibilities — to which end his hands were carefully fettered by Governor Dinwiddie. It may all be read in his writings. His letters to the Executive are all there — take away the dates and the names, and they are the letters of General George Washington to Congress. On a smaller theatre, he rehearsed the great contest of the Revolution. His services in the French war proved his fitness for the generalship of the American forces in 1775. Lord Fairfax was the secret influence which shaped the whole career of Washington.

The proprietor of the vast lands determined soon to go into the valley himself. He did so; built the house called Greenway and removed there, never to leave it for any length of time and to die in it. Thirty years ago, Greenway Court was still an old house with a long veranda, dormer windows, and low chimneys. Upon the roof were perched two belfries which once contained bells to assemble the retainers of his lordship to their meals. Not far from the main building was a small stone cabin in which Lord Fairfax made out title deeds to all the surrounding country and where he always slept, sentinelled by his great deer hounds. He had a fondness for hounds and dogs of every description. They slept upon his floors, not seldom upon his rough bed, and ran fawning upon him whenever he moved. His table was profusely spread every day in the year, and he kept open house. His delicate hands were now tawny and hard by sunshine and cold, and by grasping rifles and knives.

Year after year this wild life became more and more congenial; but his former tastes never completely left him. Thirty years ago, there still existed a yellowing inventory of books at Greenway Court, and the crisp, time-worn pages showed the reader.

He also retained an English coach, and paid calls in state, drawn by four or six horses. He kept by him a court suit for such visits. But in his own valley he was a plain hunter. He filled ably the post of lieutenant of Frederick County, which was then almost a principality, and many of his summonses to the militia are still extant in his own handwriting.

All the authorities agree that his society was extremely attractive. He possessed the talent of relating admirably. The great disappointment of his life made him eccentric and drove him to the solitudes of the great valley, but he was always in a limited way the man of society. He died in 1782, soon after the surrender of Cornwallis. When he heard of that event he was at Winchester. He laid down the paper containing the intelligence, beckoned to his old body servant and leaning on his arm muttered, "Take me to bed, Joe, it is time for me to die!"

Truly, it was time for him to die! He had been born a nobleman and had shone at court; he was dying amid the wilds of a new world, in another age, which had completely forgotten the days of his youth. He had trained a young surveyor, a boy of sixteen, on whose head his hand had often been affectionately laid; and now that boy was general-in-chief of the American army — the prime agent in humbling the power of England in America — the father of his country, the foremost man of all this world! That was the boy he had once known; the object of all eyes, the pride and joy of a great nation; and he, Thomas, Lord Fairfax, Baron of Cameron, a noble of the land, thus humbled, was dying in obscurity and loneliness.

But Lord Fairfax cannot be forgotten. His influence on the life of George Washington was immense. As a mere English nobleman he would have long since passed into complete oblivion; as lord-proprietor of the "Northern Neck" and the great tracks beyond the mountains his name would have lingered for a time, to be forgotten, however, in a few generations; but he was more than an English nobleman, more than lord-proprietor of a magnificent principality. He was the friend of a young surveyor, but that young surveyor was named George Washington.

These two figures moved together side by side here at Greenway Court — the old man and the younger, the noble and the mere gentleman, the monarchist and the republican. The future was to hold strange secrets, but the veil was not yet drawn. Lord Fairfax strides across the green, surrounded by his rough farmers and hunters; his deer hounds run to lick his hands and struggle for his blunt caresses; and yonder, rapidly approaching from beneath the heavy leaves of the forest and glad to get to the hospitable roof you may see the erect figure and honest face of young George Washington.

"That an English nobleman should be beaten by a Virginia Buckskin!" Lord Fairfax said, as he was dying.

METHODS IN GEOGRAPHY.[1]

(*Second Series.*)

VI.

BY LARKIN DUNTON, LL. D., AND MISS L. T. MOSES.

NATURE LESSONS — SECOND YEAR.

The Seasons.

THE second year's work may end by a lesson on the seasons. This lesson must necessarily exclude direct observation. Some little preparation has been made for it during the different seasons by the pupils' observations of the distinguishing characteristics of each. But now summer has come it seems fit that the children should bring together their knowledge in a lesson.

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[1] Copyright, 1887, by Larkin Dunton, and Miss L. T. Moses.

A bright, warm day in June, one of those rare days, when "Heaven tries the earth if it be in tune, and over it softly her warm ear lays," is chosen for the lesson.

The teacher begins by asking the children what they noticed about the weather as they came to school. All hands are up immediately, and when the children are told that they may all answer together, "It is a very warm day," is spoken almost unanimously.

"Now think of anything else that you noticed."

Again the hands fly up, and the several children called upon to tell their observations give these answers: —

"The sun is very bright."

"The sun is very hot."

"The clouds are white, and there are very few of them."

"There is hardly a breath of wind."

"I walked on the shady side of the street."

"But Harry did not tell what I asked him to tell," said the teacher. "Who can tell Harry how he is wrong."

"You asked us to tell what we saw coming to school and Harry did n't tell that, Miss Rand."

"Who can tell what Harry did tell us?"

"Harry told us where he walked."

"Yes, he told us what he did, and I asked you all to tell what you noticed. Jenny was not quite right either; for she said you were to tell what you saw, and I am sure none of you saw that there was no wind, and I do n't see how you could see the heat."

"But I did see the heat, Miss Rand. When I came across the beach the heat went up in little kind of circles."

"I would say little circles, John, and leave out the 'kind of.' I am surprised that you saw the air waves so early in the morning."

"But I was late, Miss Rand. It was almost recess when I came to school."

"True, John. I wish all you children would look for the heat waves, or, as John calls them, the 'little circles' when you go home this noon.

"Now the warm summer has come, I want you to think of all the things out doors that we have summers. You may think of the things that make you like the summer."

"The flowers come; the roses I like best of summer flowers."

"We have vacation in the summer."

"The summer is pleasant, because we can stay out and play all the time."

"I like it, because I can sit up till eight o'clock; it is so light after supper."

"And I like it because the birds come, and the little birds are so pretty. There is a nest just by my chamber window, and the little birds 'peep, peep' every morning before I get up."

"The cherries and strawberries come in the summer, and I like them."

"So do the sails and the drives, and ever so much fun out doors."

"Don't you think the clouds are prettier in the summer, Miss Rand?"

"I sometimes think they are, Fellie. At any rate we see more of them, because we are out so much. But this morning was so hot that it made me think of another morning when I had to look out for ears and fingers and toes."

"Oh! that cold morning last winter!" said the children.

"Yes, it is not always summer with us. Think now of what winter brings. All tell together two things."

"The cold and the snow!" some say while others give instead, "The ice and the snow!"

"I might have given you three things; for winter does bring the cold and the snow and ice. Tell me other things that we studied about last winter, which we do not study in the summer."

"The frost does not come in the summer."

"We do not study the moon and stars in the summer."

"But there are the moon and stars in the summer."

"I think it is better to say there is the moon and the stars in the summer, Miss Rand."

"No, Mary, Frank was right. But we might say there is the moon and there are the stars in summer too. But of course we don't study them in the summer. You may tell me the reason why."

"They do not come out early enough for us to watch them in the summer, Miss Rand."

"The days are longer in the summer; but in the winter they are so short that sometimes we can watch the moon and stars before supper, Miss Rand."

"You are both right; but what is it, Tommy?"

"We do not see our bright star, Venus, now, Miss Rand; so I do not like the summer as well."

"We do not see it this summer, Tommy; but we shall see it again sometime, and then, perhaps, it may be in the summer. I shall only say perhaps, for of course I want you to find out whether we can see it summers as well as winters.

"It is time to think of the autumn and spring. We will think of the autumn first, and you may each tell me what you like particularly about that."

The children tell of the red and yellow leaves. Some of them tell of the brown ones and of all the beautiful coloring of the meadows, pastures, and forests. One little girl says the woods look like sunsets.

Next they tell of the fruits and other harvest treasures, and of their lessons on seeds, nuts, and fruits. Then, at the suggestion of the teacher, they speak of the shortening days, the cooler weather, the first frosts, and of the late Indian summer with its warm, hazy sunshine.

The spring brings to them, they remember, the springing of the grass, the planting and the coming up of plants in the flower and vegetable gardens; and the trees with their unfolding buds, which make the tender green leaves or the flowers, which bring the apples, pears, or nuts. They speak too of the coming of the birds, and of their sweet songs and their nest building. This reminds the children that they forgot to tell that many of the birds went away in the autumn. The lengthening of the days is named, too.

The children are then told to name the seasons in the order that they come, beginning with the spring. After they have done this and have seen the words written on the board, they name the months in each season, and then they tell the various things that they think belong to each season. Then each one thinks which season he loves best and tells its name; and the teacher wishes to know why he loves the season named best; so each must give some reasons for his choice.

The following poem is then read. The author is not known. It has been changed to suit the wants of a class. The class may be divided into four parts each part representing one season.

THE SEASONS.

FIRST GROUP.

We love the spring when slumbering buds
  Are wakened into birth;
When joy and gladness seem to run
  So freely o'er the earth.

SECOND GROUP.

We love the summer, when the flowers
  Look beautiful and bright;
When we can spend the leisure hours
  With hoop, and ball, and kite.

THIRD GROUP.

We love the autumn, for the trees
  With fruit are bending now;
And we can reach the luscious plums
  That hang upon the bough.

FOURTH GROUP.

We love to have the winter come,
When we can skate and slide,
And hear the noise of merry sleighs
That swiftly by us glide.

WHOLE CLASS.

We love the seasons in their round;
The joys of each are free;
Wisdom and love in all are found
God's hand in each we see.

This lesson will finish the course of study of nature for the second year. It is perhaps unnecessary to repeat that not one of these lessons on the natural objects that surround us, has been given except in the presence of the object which is studied. As far as possible, the very thing studied has been before the class at the time of the lesson. Where this has not been possible, as in the case of the stars, there have been repeated observations and such tests as would insure absolute accuracy in the observations. In no case has a lesson been given on an object where the children could not get knowledge from their own investigation through their own senses.

It will be seen that the two things dwelt on in this second year's work are careful, accurate observation, and vivid representation. This has been the object in every lesson and in almost every step of the lesson. The training of the presentative and representative powers of the mind is the proper work for the first years of school life.

It will be readily seen that the representative work of this year has been mainly with the memory. The imagination has been used only incidentally. The attention has been directed to seeing a few things so thoroughly that a perfect mental picture of them could be reproduced. It is to furnish the mind with real pictures of real things, and to give the mind the power of reproducing these pictures at will, that the work has tended. In this way a broad and sure foundation is laid for the work of geography, which is so to combine the elements of well known objects, that the mind can form pictures of things not present to it. This higher work of the imagination belongs to the study of geography proper. The making of the necessary preparation for this study is what we are doing in this early work.

In addition to the above, there has been some looking forward to the development of the thought faculty proper to the third year's work. The idea of the constant tendency of everything in nature to be of use has been kept before the mind and intensified this year, as has the great beauty of nature. The effort has been to instil more deeply into the mind of the pupil the love of use and the love of beauty.

It is believed that the unconscious good derived from this study of nature is hardly less real than that which the teachers can note in the quickening of the mental powers. The love of truth, of use, and of beauty, with the love of the Maker of all truth, are strong elements in the formation of such a character as we wish to be the outcome of education; and it is believed that all these good affections may be aroused in the child's mind and heart in these lessons.

The next numbers of these papers will discuss the third year's work in nature; and this together with a short study of the relations of human society as observed by the child, will complete the primary work of preparation for the study of geography.

METHODS IN DRAWING.[1]

BY MRS. MARY DANA HICKS.

Director of Prang's Normal Drawing Classes by Correspondence.

IV.

FACILITY OF EXECUTION.

THE gymnastic exercises that have been given should be continued as regular exercises. They prepare for, and maintain the free use of the arm from the shoulder in drawing, and also that control of the fingers which allows an easy and yet a firm grasp of the chalk or pencil.

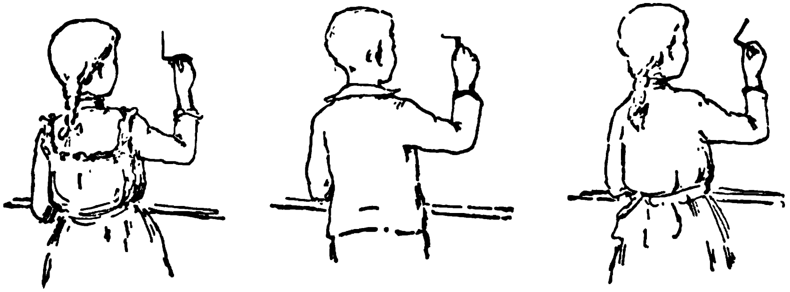

Fig. 17. Fig. 18. Fig. 19.

POSITION IN BLACKBOARD DRAWING.

Attention must next be paid to position in drawing at the blackboard and in the seat. Definite provision should be made for drawing at the board. The erect position and the freedom from the constraint of the desk make drawing at the blackboard one of the best means of developing a free expression of thought through drawing.

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[1] Copyright, 1889, by Mary Dana Hicks.

The illustration shows not only freedom of posture and movement from the shoulder, but also the changes described below that are necessary in the position of hand and pencil for drawing the various curved and straight lines.

POSITION IN THE SEAT.

As we seek for a free expression, the position in the seat when drawing must be that which will give the greatest freedom possible. Feet well placed upon the floor, body erect and facing the desk, book well back on the desk, left hand holding the book or paper, and the right ready for easy movement from the shoulder — these must be unremittingly required until the habit is formed of taking the proper position without reminder.

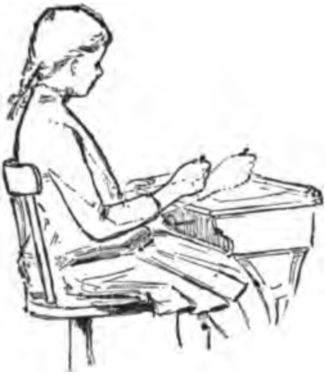

Fig. 20.

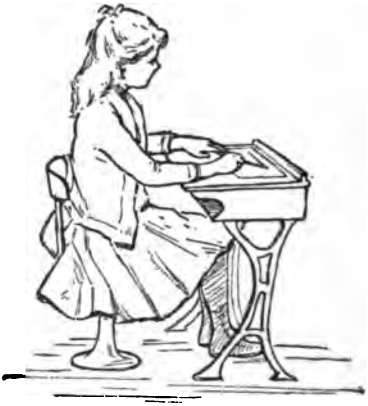

Fig. 21.

Drill exercises in drawing on the board and on paper should be regularly given, and should repeat the movements previously practised with the arm bent (See Figs. 11, 12, 13 in the last article).

PENCIL HOLDING.

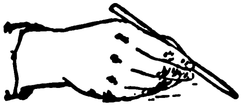

Fig. 22.

But it must be taken into consideration that an additional element, the pencil, has been introduced into the work. It will not do to hold the pencil in any chance way.

It should be held at least four inches from the point with an easy grasp.

In drawing circles (see Fig. 23), vertical ellipses, and ovals, and vertical lines, the pencil should point to the left, at an angle rather less than 45 degrees to the paper. In drawing horizontal ellipses and horizontal lines (see Fig. 24), the pencil should point toward the top of the paper, at the same angle. The general rule for straight lines is, that the pencil shall be held in a direction at right angles to the line. Thus in Figs. 17, 18, and 19 the direction of the pencil is at right angles to the line to be drawn; this can also be seen in Fig. 21.

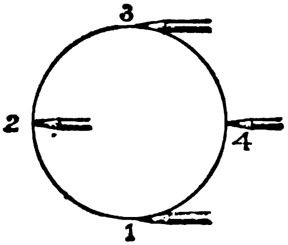

Fig. 23.

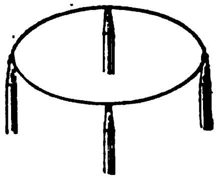

Fig. 24.

It is very delightful to watch the pencil-holding in a well-trained school. When a line is to be drawn in a certain direction, the thought of the line seems to have associated with it in the minds of pupils the pencil-holding that it will require. The pencils that have been pointed to the left for a circle or a vertical line, turn deftly and quickly and point toward the top of the paper when a horizontal line is desired.

MOVEMENT AND DRAWING.

Before attempting any drawing, movement should be practised with pencil in hand, several times in the direction of the line to be drawn, to insure correct pencil-holding and free motion when ready to draw. Remember, that freedom is necessary to all good drawing. Having practised the movement, then draw continuously. The lines to be drawn for these drill exercises should not be less than six inches.

It will be an astonishment and a delight to those who have not tried this free work, to see what can be accomplished in this way. Practice for movement in writing has long been insisted upon, but it has not been understood until recently (strange as it may seem), that free movement is an essential to ready expression of ideas by drawing. Formerly, a line was drawn by a series of overlapping short lines — timorous ventures in search of the direction desired. Now, the whole extent of the direction is first studied through a repetition of continuous movements, and then the line drawn at one sweep.

DRILL EXERCISES.

Illustrations are given of four drill exercises, to be carried out by movement and drawing.

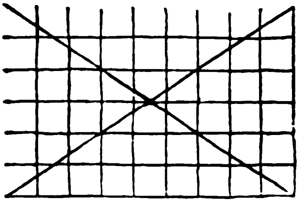

Fig. 25.

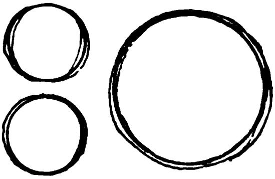

Fig. 26.

It is not desirable that such exercises should be long continued; but they should be made serious and thoughtful.

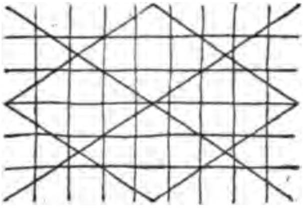

Fig. 27.

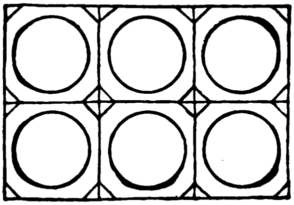

Fig. 28.

Such exercises should not only be given in circles and straight lines, but also in ellipses, ovals, and reversed curves, introducing gradually much subtilty of curvature, to be attained through this practice of movement and drawing, so that the hand may become the ready exponent of the mind.

PRACTICAL BOTANY.[1]

BY PROF. W. WHITMAN BAILEY, B. P., BROWN UNIVERSITY.

VI.

LEAVES CONTINUED.

We have already referred to the infinite variety of shapes assumed by leaves. Often, indeed, we find a number of diverse forms on one and the same plant. To characterize these shapes or contours the botanist has adopted a number of terms used with more or less precision. Often the names are borrowed from familiar objects, or from geometrical figures with which every one is acquainted. Thus we have the "lanceolate" or lance-shaped, and the "cordate" or heart-shaped leaf. Or, using the geometrical terms, such a series is found as

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[1] Copyright, 1888, by Eastern Educational Bureau.

"oblong," "elliptical," "orbicular," "rhomboid." We mention here only a few of the numerous terms applied in descriptive Botany. We think it best for the beginner, plant in hand, to relegate any particular leaf to its proper figure in the lessons or textbook used. But he must be again cautioned that such pictures are only general guides. They are not designed to be infallible. Many leaves found, will, as to base, apex, or general dimensions, vary from the type. Then it is that the pupil must combine terms.

It is well for the teacher who has sufficient time at his disposal, to send some of the pupils to the blackboard to draw from memory some of the forms and margins. Call upon John Smith (he is in every school), to figure an ovate leaf, with dentate margin, and acuminate apex. Tell Mary Ann (she also attends regularly), to draw a palmately three-lobed leaf, with serrate margin, and acute apex. Our own experience has always been with very limited time, say two hours a week. For this reason we have abandoned the idea of making pupils recite the names of forms. To compensate for this, we provide ample material, and as each new plant shows some novel form of leaf, or modification of type, the class soon acquires a knowledge of an extended range. Moreover its members do not become disgusted with the terms when they are applied to the actual objects, as they must and will when asked to learn them by rote.

In the last number we proceeded with a leaf only through the veining. The questions would now follow in this order. If the leaf is a "simple" one: —

What is its shape?
What is its margin?
What is its apex?
What is its base?
Has it a petiole?
Has it stipules?

To take a supposed case, the result might read: "lanceolate, serrate, acuminate, short petioled, stipular."

The term lanceolate is in this case supposed to include the base.

As to margin, leaves pass by easy gradations from an unbroken or "entire" edge, through "serrate" or saw-toothed, "dentate" or coarsely toothed, "crenate" or scolloped, "repand" or wavy, "sinuous," "lobed," "cleft," "parted," "divided," to compound leaves. In other words this series of terms exhibits a gradation in which the leaf is more and more deeply segmented or cut towards the midrib. Such is the implication of our terminology, used for convenience, but one must not forget that as a matter of fact what happens is a failure of the pulp of the blade to extend to the margin. The veins are laid down first.

To properly understand and describe such leaves as the lobed, the cleft, or the compound, one must be thoroughly drilled in the venation. Thus, contrast a pinnately-lobed leaf (oak), where the veins pass from the midrib, with a palmately-lobed one (maple), where two or more veins radiate from the base. The leaves of the pinnate series will be generally longer than broad; of the palmate, broader than long. An exception that even now occurs to me is in the leaf of the tulip tree (*Liriodendron*), pinnately-lobed, but broad.

The base and apex of a leaf may be described in such terms as "acute" or sharp-pointed, "acuminate" or taper-pointed, "obtuse" or blunt, "truncate," etc. These terms would apply to both base and apex, when alike. Often the contour term, as "cordate" or "hastate," includes and disposes of the base. Remember that if the general form is maintained, as "ovate" or "lanceolate," we may have either an obtuse, acute, or acuminate apex. In other words, the apex is often considered quite apart from the general outlines. We mention this as it is a snag upon which we find many small craft foundering. A few terms, like "amplexicaul," or clasping, "auriculate" or eared, apply only to the base.

The last two forms characterize leaves which readily pass into the "perfoliate," where the stem appears to pierce the leaf, as in some species of bell-wort (*Uvularia*). The deeply cordate leaf, has, in its nascent state, the opposed edges pressed together so as to form an organic union. When opposed leaves, as in some honeysuckles or in the common "thorough-wort," unite in this way, they are called "connate perfoliate." A "peltate" leaf, or one like that of the garden nasturtium (*Tropæolum*) whère the petiole is attached to the back, is formed in a similar way by the filling in of the *sinus* of a circular, heart-shaped leaf. And, by the way, a leaf need not be rotund to be peltate. Some of the caladiums of our gardens show it and are hastate. So does the common caster-oil plant (*Ricinus*) where the leaf, though round indeed, is deeply cleft and serrate.

A great bug-bear to the beginner is the "compound" leaf. As a matter of fact, however, we think the old hand has a greater dread of cleft and parted *simple* ones, like those of the tall buttercup (*Ranunculus acris*, *L.*), and the yarrow (*Achillea millefolium*). If a compound leaf presents itself, the pupil must ask and answer the questions:

1st. How is it compounded?

2d. In what degree?

By the first question is meant, is the leaf pinnately or palmately compound? This is of course answered by the position of the leaflets. In the first case they will be arranged along either side of the midrib or common support; in the other they will radiate from the top of the petiole. In either case they may or may not have partial petioles or stalks of their own, as well as stipels. The last are stipules of the leaflets. They are well seen in the common white locust.

The degree of composition refers to the number of times the outline is broken, ***not to the number of the leaflets***. These may be few or many. If there is only one series of leaflets the leaf is called once-pinnately or palmately compound, as the case may be, or we may reduce the term and say uni-pinnate, uni-palmate, etc. If the leaflets, however, are themselves divided into lesser leaflets, the leaf is twice compound and so on even to a fourth degree. Having determined this satisfactorily, the next thing is to describe the leaflets. The method here employed is the same as with simple leaves.

These papers are not intended to be in any sense a botanical treatise, or an additional textbook. We already have quite enough of these. Their only purpose is to afford help in the right use of textbooks. Hence the reader must not expect here a full account of any subject. Hints gained from experience will be given and danger signals erected by any air-holes detected in the path of the unwary.

PRACTICAL METHODS OF TEACHING SPELLING.[1]

(*Second Series.*)

VI.

BY ANNA B. BADLAM.

Rice Training School, Boston, Mass.

Lesson 84. Words used as Stems.

1.—Action words.

wash	*washes*	*washed*	*washing*
watch	*watches*	*watched*	*watching*
want	*wants*	*wanted*	*wanting*

2.—Name words.

squash	*squashes*
swamp	*swamps*
swan	*swans*

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[1] Copyright, 1888, by Anna B. Badlam.

Lesson 85. Words used as Stems.

1. — Name words.

mast	*masts*	*last*	*lasts*	*cast*	*casts*
cask	*casks*	*task*	*tasks*	*flask*	*flasks*
chant	*chants*				

2. — Action words.

ask	*asks*	*asked*	*asking*
bask	*basks*	*basked*	*basking*

Lesson 86. Words used as Stems.

1. — Name words.

pass	*passes*	*mass*	*masses*	*class*	*classes*
glass	*glasses*	*grass*	*grasses*	———	———

2. — Action words.

pass	*passes*	*passing*	*passed*
pant	*pants*	*panting*	*panted*
grant	*grants*	*granting*	*granted*
chant	*chants*	*chanting*	*chanted*

Lesson 87. Words used as Stems.

1. — Name words.

dance	*dances*	*lance*	*lances*
chance	*chances*	*glance*	*glances*

2. — Name words formed from Action words.

dance	*dances*	*dancer*

3. — Action words.

dance	*dances*	† *dancing*	*danced*
chance	*chances*	———	*chanced*
glance	*glances*	† *glancing*	*glanced*
gasp	*gasps*	*gasping*	*gasped*
grasp	*grasps*	*grasping*	*grasped*
clasp	*clasps*	*clasping*	*clasped*

Lesson 88. Words used as Stems.

1. — Action words.

waft	*wafts*	*wafting*	*wafted*
quaff	*quaffs*	———	*quaffed*

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† Change of form.

2.—Name words.

raft *rafts* *draft* *drafts* *graft* *grafts*
craft *crafts* *staff* †*staves* *hasp* *hasps*

† Change of form and sound.

Lesson 89. The Initial letter changes.

The obscure sound of *E* before *R*.

1 2 3 4
her *fern* *stern* *term* *sperm* *nerve* *serve* *swerve*

Lesson 90. The silent letters.—Silent *a*. Silent *e*.

heard *earth* *learn* *were*
——— ——— *yearn* ———

Lesson 91. The Initial letter changes.

The obscure sound of *I* before *R*.

1 2 3 4 5
sir *dirt* *skirt* *girl* *whirl* *bird* *firm*
stir *shirt* ——— *twirl* ——— *third* ———

Lesson 92. The Final letter changes.

The obscure sound of *O* before *R*.

word *world* *worth*
work *worm* *worse*

Lesson 93. The Initial letter changes.

The obscure sound of *U* before *R*.

1 2 3
fur *furl* *burn*
cur *curl* *turn*

Lesson 94. Words used as Stems.

1.—Action words.

stir *stirs* †*stirred* †*stirring*
twirl *twirls* *twirled* *twirling*
whirl *whirls* *whirled* *whirling*

† Change of form, the final letter of the stem doubled.

2.—Quality words.

dirt *dirty* *firm* *firmly*

3.—Name words.

shirt *shirts* *skirt* *skirts* *girl* *girls* *bird* *birds*

Lesson 95. Words used as Stems.

1.—Action words and words formed from them.

work	*works*	*worked*	*working*	*worker*	*workers*
burn	*burns*	*burned*	*burning*	*burner*	*burners*
turn	*turns*	*turned*	*turning*	———	———
curl	*curls*	*curled*	*curling*	*curler*	*curlers*

2.—Quality words formed from stems.

curl	*curly*	*fur*	*furry*	*world*	*worldly*
worm	*wormy*	*worth*	*worthless*	*firm*	*firmly*
		———	† *worthy*		

† Change of pronunciation.

Lesson 96. The Initial letter changes.

A (grave).

care *fare* *dare* *stare* *mare* *glare*
bare *share* *pare* *flare* *rare* *spare*

Lesson 97. The Silent Letter.

air *stair* *fair*
pair *hair* *lair*

Lesson 98. The Initial letter changes.

E (grave).

there *where*

Lesson 99. The Silent Letter.

tear *pear*
wear *bear*

Lesson 100. Words used as Stems.

1.—Action words.

care	*cares*	*cared*	† *caring*
share	*shares*	*shared*	*sharing*
dare	*dares*	*dared*	*daring*
stare	*stares*	*stared*	*staring*
spare	*spares*	*spared*	*sparing*
pare	*pares*	*pared*	*paring*

† N. B. Develop the thought that silent *e* is omitted before adding *ing*.

2.—Quality words.

air	*airy*	*fair*	*fairly*	*glare*	*dare*	*flare*
hair	*hairy*	*rare*	*rarely*	**glaring*	**daring*	**flaring*

* Omission of silent *e* from the stem.

3.—Name words.

care	*fare*	*pear*	*hair*
cares	*fares*	*pears*	*hairs*

Lesson 101. The Effect of Final Silent *E*.

Comparison of words for Pronunciation, Spelling and Meaning.

car	*bar*	*far*	*star*	*spar*
care	*bare*	*fare*	*stare*	*spare*

Lesson 102. Single and Double Consonants.

für	*bone*	*hope*	*mope*	*file*	*pine*
furry	**bony*	**hoping*	**moping*	**filing*	**pining*

*** The omission of final silent *e* from the stem.**

furry	*bony*	*hoping*	*moping*	*filing*	*pining*
fury	*bonny*	*hopping*	*mopping*	*filling*	*pinning*

Lesson 103. The Final Consonant of the Stem Doubled before a new Syllable.

hop	*pin*	*mop*	*stop*	*chop*
hopping	*pinning*	*mopping*	*stopping*	*chopping*
hopped	*pinned*	*mopped*	*stopped*	*chopped*
hopper	———	———	*stopper*	*chopper*

LANGUAGE LESSONS AND EXERCISES.[1]

(*Second Series.*)

VI.

BY L. W. RUSSELL, A. M.

USE OF THE HYPHEN IN COMPOUND WORDS.

THE use of the hyphen in compounding words depends largely upon the individual judgment and taste of the writers themselves. Careful composers differ from each other in the matter, and not unfrequently show inconsistencies in different parts of their own writings. In cases of doubt, it is probably the safest way to consult reliable dictionaries for authority; but Webster and Worcester often disagree with each other, and in many cases we shall look in vain for decisive authority. But while there is a "middle-ground" of doubt, there are many words in which the use of the hyphen is positive, or, at least proper and helpful.

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In a general way, the hyphen is used to unite into a compound word two or more words commonly independent of each other. While the words compounded usually retain, in a degree, their original signification, yet, united, they express essentially one idea ; thus, — study-table, school-boy, play-ground. The hyphen, in many instances, merely covers a transition period in the growth of a compound word ; and when, from long or frequent use, the consolidation becomes fully established, the hyphen should be dropped, as in the following : railroad, inkstand, blackboard, steamboat, blackberry, sunrise, churchyard, rainbow, shellfish, inland, afterthought, slaveholder, byword, everything, anybody, raindrop, innkeeper, washtub, pickpocket, etc.

The list of compound words at first hyphened, but now consolidated, is very large and constantly increasing. The hyphen should not be inserted between words where its use would add nothing to the clearness of the sense intended ; as, " a never to be forgotten day" ; " the long sought for comet" ; "the building up process" ; " attorney at law" ; etc. In cases like those just cited the meanings of the modifying expressions, which some writers would hyphen, are fully apparent as they are.

The hyphen is used, — 1. To join the parts of a compound word when each retains its original accent ; as " Incense-breathing morn," bright-lettered, gilt-framed looking-glass.

Note. — Words ending in *monger* and *holder* are written as unbroken words ; as, fishmonger, ironmonger, landholder, bondholder, slaveholder.

Most words beginning with the *over*, *under*, *after*, *out*, *cross*, and *counter*, are consolidated with a noun or adjective of one syllable or with a verb of one syllable or more than one ; thus, overdone, underdone, overdrawn, undervalued, underestimated, undertaken, crossquestion, countermarch, counterbalance.

Nouns and adjectives of more than one syllable thus compounded are properly hyphened : under-current, over-issue, counter-motion, etc.

If the first word is clearly a modifier of the second, it is better to write them separately, as most authors do ; thus, — counter influence, a cross section, the after part, a counter revolution, over excited, an over burdensome task, etc.

2. To join the parts of compound words the first of which ends with the same letter that begins the second ; as, book-keeping, glow-worm, ear-ring, night-time, except *ofttimes*.

3. To join two primitives when the first ends and the second begins with a vowel ; thus, — pine-apple, fire-arms, peace-offering, a lie-abed. Also, pot-herb, soap-house, and first-rate, are hyphened.

4. To join the parts of compound words composed of a verb, or an adverb, and a preposition; as a break-down, a turn-out, an up-start.

Also, adjectives formed in various ways; as, heart-broken, first-rate, first-born, ill-feeling, ill-bred, down-trodden, church-going, good-looking, hard-working, grown-up, unlooked-for, unheard-of; and ordinal numbers compounded with *hand* and *rate*, — fourth-rate, second-hand, etc.

5. The words *board*, *house*, *room*, *side*, *stone*, *time*, and *yard*, are usually hyphened with a word of more than one syllable; otherwise they are consolidated; as, dinner-time, ironing-board, senate-house, dining-room; but cupboard, bedroom, daytime, graveyard, are consolidated.

Town-house, town-hall, bird-house, seed-hall, etc., are usually hyphened.

6. Numerals of one syllable compounded with *fold*, *score*, *pence* and *penny* are consolidated; but if numerals of more than one syllable are compounded with them, they are hyphened; as, twofold, tenfold, threescore, fivepence, fourpenny, thirty-fold, two-hundred-fold, fifteen-penny.

7. Numerals combined with nouns form adjectives, as follows: a two-foot rule, a ten-foot pole, a five-mile run, a two-horse carriage, a fifty-horse power, a hundred-candle light, a one-horse chaise.

8. To join primitives when the first is in the possessive case, but has lost its possessive sense; as, Solomon's-seal, Jesuit's-bark, St. Vitus's-dance, the King's-evil, the Queen's-English, a Jew's-harp, bird's-eye; *except* names intended to perpetuate or honor the names of individuals or associations; as, St. Stephen's Church, Van Dieman's Land, Hudson's Bay, Merchants' Exchange.

9. To join the primitives for adjectives compounded in some odd way; as, a matter-of-fact person, an out-of-the-way place, a go-as-you-please gait, a raw-and-bloody-bones story, the daily-what-to-do matters.

10. To join a prefix ending with a vowel to a primitive beginning with one, both vowels being separately pronounced; as, pre-occupy, pre-exist, re-enter, pre-eminent, co-eternal, re-examine, re-instate. Also, to join a prefix ending with a vowel to a primitive beginning with a consonant, making a word of a similar form with another of different meaning; thus, — re-collect, re-formation, re-creation, — to distinguish them from recollect, etc.

11. To join parts forming military, and other titles; thus, — attorney-general, governor-general, brigadier-general, rear-admiral, vice-president, vice-chancellor, etc.; but viceroy and vicegerent are consolidated.

12. Compound words expressing kindred are hyphened; father-in-

law, daughter-in-law, step-son, step-mother, second-cousin, great-uncle, foster-brother, great-great-grandfather, etc.

13. To join the words for points of compass, as follows: south-southeast, west-southwest, north-northwest; but northeast, northwest, southeast, southwest.

14. Numbers are thus compounded: fifty-six, eighty-two, one-hundred-twenty; twenty-fifth, thirty-ninth, fifty-second; thirty-nine fiftieths, twenty-seven thirtieths, ninety-nine ten-thousandths, forty-seven hundred-thousandths, etc.; but one half, two thirds, four fifths, ten thousandths, etc.

15. *Half* and *quarter*, when compounded, must be hyphened, thus, — half-witted, half-dollar, half-price, half-grown, quarter-dollar, quarter-deck, quarter-pay, quarter-barrel, etc. *Quartermaster* is consolidated.

16. *Self* at the beginning of compounds should be hyphened: self-taught, self-explaining, self-made, self-command, self-raised, self-indulgence; except, *selfish*, *selfhood*, and *selfsame*.

17. *Fellow*, compounded, is usually hyphened; as, fellow-traveller, fellow-student, fellow-shipmate, fellow-townsman. But the hyphen in such words is hardly necessary.

18. The word tree is often unnecessarily compounded; as, apple-tree; better, apple tree, peach tree, cherry tree, walnut tree, etc.

Write as one word, compounds beginning with *eye;* as, eyelash, eye-glass, eyewitness, eyeservant, etc.

Most compounds ending with *like* are consolidated; as, childlike, lifelike, workmanlike. But *like* compounded with proper names or in an unusual way, should be hyphened; as, Webster-like, Indian-like, business-like.

[Some further uses of the hyphen are reserved for a future number.]

EXERCISE. — From the following words, make a list of compound words: Clouds, drifts, high, thunder, beggar, fence, snow, breast, girl, corners, boy, faced, rosy, ground, chair, play, easy, star, sheet, bed, winding, straw, wandering, built, cloud, fire, fields, folds, harvest, ocean, foot, post, service, office, civil, five, life, production, home, forest, ground, white, growth, pinkish, back, hearted, tailors, sailor, man, chicken, servant, boy, share, room, root, office, deep, house, throw, bake, ante; thus, — civil-service, cloud-folds, chicken-hearted, etc.

Put the compounds thus made into appropriate sentences; thus, — A poor beggar-girl was found dead beneath a snow-drift.

It is well to *think* well; it is *divine* to *act* well.

— *Horace Mann.*

THE RIGHT USE OF WORDS.

BY ROGER RICHARDSON.

IN the old times the boys and girls in schools studied English grammar. It was thought to teach "How to speak and write the English language with propriety." Then some heterodox crank one day boldly asserted that that statement was not true. Moreover, he proved his proposition. Hence a reaction against technical grammar, "parsing," and "analysis." Hence, "Language Lessons" and "How to talk" and "How to write" and a host of books of that general nature. Meantime, there was something in the former study of the grammar which now seems lacking. What shall be done to remedy the defect?

Among other devices we beg leave to present as vastly important the following plan: Call the attention of the pupils to some common error, make the case clear that it may be thoroughly comprehended, then show the remedy, and *insist* that the error be corrected by them in their ordinary use of language, both in talking and in writing. Next introduce another, and dwell sufficiently upon it from day to day till that error is corrected. In this way proceed till the most glaring faults of language are weeded out.

This is proceeding upon the Dutchman's method of making "public opinion." "How do I do it? Vell, I dakes von man py de buttonhole, and talks mit him, till he thinks shust as I do, den I haf made von public opinion. Den I dakes anoder and I makes dwo public opinions; and den I dakes anoder, and anoder."

Do not be too rapid in introducing these general errors. Dwell upon each one alone till the correction has been made.

When Mr. Bryant was editing the New York Evening Post he printed for the use of each compositor his famous *index expurgatorius*. The words in his list were in no case to be used in the paper. This related to choice of words only, but the instruction should go further.

The Professor of English Literature in Wellesley College at one time prepared a list of "words, phrases, and expressions to be avoided." Some of them are given below and for convenience are numbered.

1. *Guess* should not be used for suppose, or think, or imagine.
2. *To Fix* means to fasten, to put into fixedness, and should never be used for to prepare, to arrange.

3. *Real* should not be used adverbially for very or really, as "real good."

4. *Some* or *any* in an adverbial sense, e. g. "I have studied some" for somewhat; "I have not studied any," for at all. "Some ten days" for about ten days.

5. "Not as I know of," for not that I know of.

6. "Storms," for moderate rain or snow.

7. Never use with a singular subject a contracted plural verb; e. g., "she don't skate well."

8. Do not use a plural pronoun referring to a singular antecedent; e. g., "Every man or woman should do their duty"; or "If you look any one straight in the face they will flinch."

9. Do not use "expect" for suspect.

10. "Shut the door to," instead of shut the door.

Now that we are upon the subject, another ten may be added, which the teacher may hold in reserve till wanted.

1. Avoid "right away," for immediately.
2. "Party," for person or individual.
3. "Depot," for station.
4. "Stopping," for staying.
5. "Try and go," for try to go; "try and do," for try to do.
6. "Funny," for odd or unusual.
7. "Above," for foregoing.
8. "Somebody else's," for somebody's else.
9. "Like I do," for as I do.
10. "Not as good as," for not so good as.

And now lay aside the following ten and keep them for future use.

1. "Feel badly," for feel bad; "looks beautifully," for looks beautiful.

3. "Between seven," for among seven.

3. "Seldom or ever," for seldom if ever, or seldom or never.

4. "More than you think for," should be more than you think.

5. "These kind of things," for this kind. Kind is singular, hence the adjective must be singular.

6. "Nicely," in response to an inquiry concerning one's health.

7. "Healthy," for wholesome or healthful. A person is healthy, a kind of food is wholesome or healthful.

8. "Just as soon," for just as lief.

9. "Kind of," to indicate a moderate degree, e. g., It is kind of good.

10. "The matter of," for matter with; "What is the matter of you?" should be what is the matter with you? or better, what ails you?

FOUR FRIDAY AFTERNOONS ON HISTORY AND GEOGRAPHY.

BY RUFUS ALDRICH.

II.

THE COLORADO ROCKIES: — CLEAR CREEK CANON, GRAY'S PEAK, AND THE ARGENTINE PASS.

TEACHER: — How many of you have found this subject as interesting as the one we had last week?

Almost all the hands came up like a flash, and as George seemed desirous of saying something, the teacher asked, "Well, what is it, George?"

"I think it is much more interesting, for, though the Hudson River is very beautiful, we have heard of it until I am tired of Palisades and the Catskills, but Colorado is something new," answered George.

"And everything is on such a large scale out there," said Maud, following out the comparison between the two. "As near as I can reckon it, Colorado is larger than all New England and New York State. Then our mountains are like little hills compared with the Rockies, and our rivers are nothing but brooks beside the western rivers."

"I think I should rather live here, however," chimed in Grace, "for I should seem so insignificant set down among those great peaks, I think I should be almost afraid of them."

Teacher: — We will not say much of the trip out to Colorado, but speak of the route from Denver, because we have discussed trips to and through Denver so often. What shall we do on arriving at Denver, Willie?

Willie: — We take the Colorado Central Railway to Georgetown. Mr. Fossett says that the tourist gets the greatest variety for the least expenditure of money, in this trip, that any single excursion affords which actually enters the mountains any distance.

Teacher: — In going from Denver to Georgetown the railway runs through Clear Creek Cañon. Did any one find a description of this cañon to read to us? Well, Nellie, you may read what you found.

Nellie: — This cañon is from twenty to forty miles from Denver, and was the first ever penetrated by a railway. Henry James says, "At times the cañon widens, but again it comes together like two mighty jaws. Some marvelous turns are made, until in confusion you wonder which way you are going, and if such a series of doubling back will not ultimately lead to the starting-point."

Nellie then read a graphic and clear account of the miles of amazing, overpowering height of cliffs, of the awe-inspiring grandeur of projecting masses along the mighty walls, of the domes of bare gray or brown granite that tower above, of the exquisite beauty of the floor of its upper valley so many thousand feet below the surrounding silvery summits, and of many other qualities and beauties that make Clear Creek stand unequalled by any cañon penetrated by a railway on the whole earth.

Teacher: — That is a beautiful description. Thank you for finding it and for reading it so clearly to us. Did any one find anything about any natural phenomena in this cañon?

Lester: — I heard a gentleman lecturing about this part of the country, and he told about the Double Head. It is a huge rock, hanging out over the railway, shaped like a human face, with another face under it. Then there is the "old man." We have an "old man of the mountain" in the White Mountains, but this gentleman said it was not to be compared with this one. The features stand out in bold relief, showing even the left ear.

Teacher: — Did any one read about the loop on the railroad between Georgetown and Silver Plume? You may tell us about it, Fred, and can you not use the board so as to make it clearer?

Fred: — Georgetown is in the valley, shut in, upon all sides, by mountains. The railroad winds up along the mountain side as it passes through the town. Some of the houses stand so close to the mountain that the sun does not get up high enough to look over the mountains and into the windows until after ten o'clock in the morning. The railroad is so high above them that when the train passes the houses it hides the sun from them until it has passed. The engine climbs up, up, and as you look down you see the town in miniature, and looking up you see a track on a high iron bridge crossing the track you are on almost at right angles, but in the form of a crescent. You wonder what that road is and how it got there. On and on, up and up, goes your train, crossing the creek, still going up. After a quarter of a mile or so, on looking down, you notice a track far below you and wonder what it is and how it came down there. Look again and you will see that you are on the high iron bridge that you noticed some time ago, and that the track below you is the one you looked up from. You have ridden over an immense loop, travelled about four miles to gain a point a mile and a half distant from the point you started from.

Teacher: — That was very well told, Fred. I don't think any of us will ever forget this loop. Do you know if this is the only loop of this kind, Grace?

Grace: — I think there are three others: one on the Southern Pacific, one in Switzerland, and one in the Andes.

Teacher: — That is correct, but this one is the most complex of them all. Where shall we leave this road for Gray's Peak, and how far shall we be from Denver?

Gertrude: — We would leave the railroad at Silver Plume, fifty miles from Denver. Gray's Peak is 14,341 feet above the level of the sea, and is the highest mountain peak in the United States, except Blanca.

George: — It is two hundred feet higher than Pike's Peak, and is called the "dome of the continent."

Teacher: — Before we go to the top of this high peak let us compare some of the heights. Gertrude, please put these figures on the board for further reference. Omaha is 1,000 feet above the sea; Denver, 5,500 feet; Georgetown, fifty miles from Denver, is 8,500 feet; the Argentine Pass is 13,100 feet; Gray's Peak, six or eight miles from Georgetown, is 14,341 feet. Figures do not begin to convey the tremendous height of this peak. On reaching the top what shall we see?

Nellie: — Almost the whole of the great state of Colorado. The mountain range running nearly through the middle of the state, the different peaks — Pike's, the Spanish Peaks, Long's Peak, the Mount of the Holy Cross, and at times the Wahsatch Mountains in Utah, can be seen. There are in Colorado sixty peaks more than 14,000 feet high; one hundred and sixty over 13,000 feet; and more than two hundred 12,000 feet high. We can see Denver and most of the other cities and towns. We look down upon the three beautiful parks formed by mountains — the North Park, the Middle Park, and the South Park.

Teacher: — Suppose you make a little sketch on the board, Nellie, of the state, with the mountain range, the three parks, the principal peaks, and towns, and rivers. You will notice that the North and South parks are on the east side of the range, and the Middle Park is on the west side. Has any one brought any description of the view from the top?

Maud: — I found a book in the public library, "Marvels of the New West," which gives a beautiful and graphic description: "A wavering line stretches back to the valley, and the tourist wonders vaguely if he has just come over it. The horse is panting as he takes the last turn, and his shoes click upon the granite jewels of the continental crown. Gray's Peak is beneath you. Hats off! The genius of this sublime solitude demands homage. They who have traversed the globe say that it affords but one such prospect. A pictured landscape so mighty in conception that it overpowers the mind, yet it is harmonious as an anthem in all its infinite diffusion of color and form; framed only by the limit of the eye's vision; a picture where lakes gleam and rivers flow, the trees nod, and the cloud-ships clash in misty collision with the peaks which have invaded their realm, while the moving sun floods it with real life and warmth. How like an atom the beholder feels! Northward, southward, westward, ramify the spurs of the range, till remoteness swallows them up. Pike's Peak is a neighbor. Lincoln's and Long's seem near. The sharpness of the Spanish peaks — Terra's Twins — near New Mexico, is distinct, while the Uintah Mountains rise up faintly in the distance of Utah. Here and there are depressions where parks and valleys are. Every park in the state can be located. You may trace the course of rivers and the site of lakes. You can see the little cities in sheltering nooks, and pathways from them up the mountain sides. You detect the glint of the Holy Cross. You perceive the South Park Railway worming along the valley of the Blue. You overlook Decatur, and Dillon, and Chihuahua. You note the hovering dusk which broods about Leadville. Eastward are the plains — a waterless ocean — each town a fleet, each house a sail, each grove an island. Denver is seen like the mythical city of the mirage."

Teacher: — That is a grand description. Why is this mountain called the "Mount of the Holy Cross," Willie?

Willie: — Because there are two deep gulches in its side which are always filled with snow. One of these cuts is horizontal, the other vertical, and they are at such an angle as to form a very perfect cross. These gulches are so large that the snow can be seen a great distance and make a noticeable landmark. I read that none of the peaks are ever covered with snow the year round, but in the cañons and gulches the snow never melts. The air is not like our air. It is not saturated with moisture, so when the snow melts it does not trickle off into the streams very much, as our snow does, neither does it melt so as to form what we call slush. It evaporates into the air.

Teacher: — I am glad you mentioned that. You see what a very important point it is, for if all that vast amount of snow should melt and flow into the streams the rivers would overflow all bounds and almost cover the entire country. This is one instance of the way in which God arranges all things to work together for good. There is one place that we must be sure and visit while we are here, so we shall have to leave Gray's Peak, much as we dislike to descend. We want to visit the Argentine Pass. Let us go back to Georgetown, and take the ride from there. Now, how shall we get to the top of the Argentine Pass?

Lester: — Oh! we can go up in carriages. or on donkeys. I read that these donkeys have such an unmusical bray that they are called the "Rocky Mountain Nightingales."

Teacher: — What can you tell me about this pass?

Harry: — It is the highest pass in the Rocky Mountains, and is the highest carriage road in the world. My father went up there once and he said that he picked flowers with one hand and threw a snowball with the other at the same time. He said, that standing on the top of this great divide looking off to the west, he heard the trickling of a brook, and then to the east, another, the one trickling down the west side and the other down on the east side.

Teacher: — Yes, and that brook slipping down on the west side would flow into the Snake River, then into what, Jennie?

Jennie: — Into the Blue River, and from that into the Grand, then into the Colorado, and into the Gulf of California.

Teacher: — Very good; who can trace the other brook? It would flow first into Leavenworth Creek, then into Clear Creek.

George: — It would flow from Clear Creek into the Platte River, then into the Missouri, the Mississippi, and into the Gulf of Mexico.

Teacher: — Good. Now let us look at the board a moment. (The teacher rapidly draws on the board, locating Gray's Peak, Denver, Omaha, with the Missouri, connects them by lines, and places the altitude of each above the name.) In the summer time which would be the hot winds at Denver, those blowing from Omaha across the plains, or those from Gray's Peak, blowing down upon Denver?

(Most of the scholars are nonplused, but two or three think they know.)

Gertrude: — I should think that the hot winds would be those from Omaha, because they blow across the hot plains, and those from the top of the mountain would be cool.

Most of the scholars agree with her, but Herbert says, —

"I don't think that it is right. I have heard father say that it was the other way, but I don't see why."

Teacher: — You are right, Herbert, and I think I can explain it so that you will understand. Denver is higher than Omaha, is it not? Then, as the air rises, what will be the result?

Nellie: — It will be rarified.

Teacher: — Yes, and when it is rarified it absorbs the heat and is rendered cooler, but the air from the mountains becomes denser as it descends to a lower level and gives out the heat which had been latent, so that at the lower level it is warm air. But our time is completely used up, and we must now close this lesson.

Our next Friday lesson will be a trip to Florida. I will tell you Monday morning what points to look up.

Fuss is half-sister to Hurry, and neither of them can do anything without getting in their own way. — *H. W. Shaw.*

THE STUDY OF SYNONYMS.

BY RUTH E. MOWRY.

HATRED, MALIGNITY AND RANCOR.

1. HATRED is from the Anglo-Saxon. MALIGNITY and RANCOR are from the Latin.
2. All three refer to ill-will and enmity.
3. HATRED is a general term covering various degrees of ill-will.

   MALIGNITY is malice intensified; it is HATRED in its aspect of destructiveness or desire to strike at the most vital interests of another; it is not only bent on evil, but loves it for its own sake.

   RANCOR is hatred or malice turned sour or bitter; it is implacable in its vindictiveness; it is the strongest word in the language to express hostile feelings.
4. "Dissemble not your HATRED, swear your love."

   "The political reigns of terror have been reigns of madness and MALIGNITY, — a total perversion of opinion; society is upside down, and its best men are thought too bad to live."

   "He who has sunk deepest in treason is generally possessed by a double measure of RANCOR against the loyal and the faithful."

MARTIAL AND WARLIKE.

1. MARTIAL is derived from the Latin.

   WARLIKE is from the Anglo-Saxon.
2. Both pertain to war.
3. MARTIAL refers more to war in action, its array, its attendants as a MARTIAL appearance.

   WARLIKE describes the feeling or temper which leads to war, and the adjuncts connected with it, as a WARLIKE people, the vicinity was full of WARLIKE preparations.
4. "When our country's cause provokes to arms,
   How MARTIAL music every bosom warms."

   "The great archangel from his WARLIKE toil surceased."

ACCEPT AND RECEIVE.

1. ACCEPT and RECEIVE are both derived from the Latin.
2. Both mean to take.
3. To RECEIVE describes simply the act of taking. To ACCEPT means to take cordially, or for the purpose for which a thing is offered. We RECEIVE a letter when it comes through the mail; we ACCEPT the invitation which it conveys.
4. "If you ACCEPT them, then their worth is great."

   "The idea of solidity we RECEIVE by our touch."

EDITORIAL.

BE merciful in your closing examinations.

THERE are misfits in teachers as well as in preachers.

VACATION will be welcome if you have done your duty.

CONSTANT drill and review is necessary for good work in arithmetic.

HAVE you decided what convention or summer school you expect to attend?

HAVE you chosen two good educational books to read rainy days during the long vacation?

BETHLEHEM and Nashville, Martha's Vineyard and Round Lake have each most attractive programmes.

THE modern hindrance to rapid advancement in education in this country is not too much supervision, but too much legislation.

IN order to economize time, the foundations must be carefully laid in each branch in the first school years. The child must both learn facts and train his early powers. Happy the pupil whose teacher attends to both parts of the work.

AN excellent exercise for an exhibition can always be produced by selecting twenty-five short, pithy sayings, some of them humorous, and giving one each to as many pupils, and then drill them to repeat these in a quick, prompt and natural tone of voice.

HAVE you planned to spend your vacation so as to combine rest and professional growth, and enjoyment? The opportunities this year are numerous. The mountains, the seaside, the lakes, and the springs have published full and attractive programs. You can hardly make a mistake if you go to some gathering of teachers.

PRESIDENT HYDE truly and forcibly says: "Instruction has advanced; examination has stood still. We are testing the results of the new methods of teaching by the old style of examination. Sensible teachers are disgusted; bright pupils are stultified; dull pupils are driven to desperation; superintendents are puzzled and perplexed; parents generally feel that something is wrong, but do not know what it is, or how to right it."

THE Forty-fourth annual meeting of the New York State Teachers' Association, to be held at the Academy of Music, Brooklyn, July 2d and 3d, under the Presidency of Prin. E. H. Cook of the Potsdam Normal School, promises to be of unusual interest to all who attend. Among those who are to speak are Supt. James McAllister of Philadelphia, Hon. Andrew S. Draper, Supt. of Public Instruction, State of N. Y., Prof. Walter S. Perry, who is well-known to the readers of "COMMON SCHOOL EDUCATION," and others. Teachers within reasonable distance of Brooklyn should send for a circular giving all the particulars.

THE American Institute of Instruction, believed to be the oldest teachers' organization in the world, holds its annual meeting for the present year on July 8 to 12 at Bethlehem, N. H., amid the magnificent scenery of the White Mountains. There are indications of a large gathering from New England, New York, and states further west. Engagements for addresses have been made with Professor E. Benjamin Andrews of Cornell University, Dr. William T. Harris of Concord, Mass., President S. C. Bartlett of Dartmouth College, Senator Henry W. Blair of New Hampshire, Superintendent James MacAlister of Philadelphia, Dr. C. C. Rounds of Plymouth, Professor John F. Woodhull of the College for the Training of Teachers in New York City, Gen. T. J. Morgan of Providence, Professor Albion W. Small of Colby University, Superintendent J. W. Patterson of New Hampshire, and Commissioner Stockwell of Rhode Island. Professor J. W. Churchill, of Andover, will give readings. Correspondence with other speakers of eminence is not yet concluded. The hotels of Bethlehem, — and they are legion, — offer generous reductions, railroad fares are made reasonable, and membership, on which these courtesies depend, is open to all, whether teachers or not, being easily secured at the meeting. The sessions are held mornings and evenings, — the latter in the elegant new Casino at the Maplewood. The afternoons will be devoted to rest and sight-seeing. The occasion can readily be made one of delightful recreation as well as of positive educational growth. A bulletin giving complete details will be sent to all whose names are forwarded to George A. Littlefield, Newport, R. I.

HAPPY HOURS.

[The following dialogues are taken from "Ten Dialogues in Rhyme for Primary Schools," by Gertrude Smith and Alice Turner, (copyrighted) published by the EASTERN EDUCATIONAL BUREAU.]

MAY AND JUNE.

[FOR THREE LITTLE GIRLS.]

Carrie: — 'T IS the time when flowers bloom,
And the breezes seem to say,
As they drift into the room,
"Summer's here! Be gay; be gay."

From the roses in the hedge,
From the grasses bending low,
All things have a joy in June,
And its beauty all things know.

Ada: — Yes, but all the spring was fair,
Violets blossomed everywhere,
Violets white, and violets blue,
Oh, I love the spring-time too.

All the birds sang everywhere,
And although the June time 's fair,
Something comes in with the spring
That the summer does not bring.

Fanny: — Yes, you both are in the right;
Spring and summer both are bright,
And what makes spring dear to you,
Is the promise June proves true.

There's a something in the air.
Saying, "All things bright and fair
Swift are coming. Life's in tune
With the promises of June."

THE RAILROAD TRAIN.

FOR SEVEN BOYS.

First Boy (advancing and turning so that he stands with the side of his face towards the audience): —

ONE is the engine, large and grand,
That waits for the engineer's command;
One is the engine, shining and fine,
That stands at the head of the cars in line.

Second Boy (coming forward and standing behind first): —

Two is the baggage-car, ready to go,
Watched by the baggage-men, all in a row;
Two is the baggage-car, solid and strong,
That carries the trunks and valises along.

Third Boy (ranging himself in line): —

Three 's the express-car, with double locks;
Send what you please in a parcel or box;
Three 's the express-car, yellow or brown,
That carries the money from town unto town.

Fourth Boy (coming into line): —

Four is the postal-car, letters are here,
Written by friends to friends who are dear;
Four is the postal-car, open to all,
That carries the letters for great and for small.

Fifth Boy (in line): —

Five is a passenger-car just made,
Upholstered in plush of the latest shade;
Five is a passenger-car, so gay,
That carries the people who ride by day.

Sixth Boy (in line): —

Six is a sleeping-car, pleasant sight!
In comfort and peace you may ride all night;
Six is a sleeping-car, gorgeous and bright,
That carries the people who ride by night.

Seventh Boy (in line): —

Seven 's a dining-car, charming and cool,
With tables, and chairs, and a vestibule;
Seven 's a dining-car, large and neat,
That carries the people who travel and eat.

All together: —

This is a train all ready to go,
That works for all of the world, you know;
That goes as fast as a bird with wings;
Clear the track! clear the track! when the loud bell rings!

THE STARS AND STRIPES.

This exercise is for all of the pupils in the room. Each child should have a small flag in the right hand. All recite in concert, slowly waving the flags back and forth as they remain seated at their desks: —

THE stars and stripes a hundred years
Have floated towards the sky;
We will be proud of our country's flag,
And love it till we die.

First little girl, rising: —

From city homes and country homes,
From mountain and from plain,
We hear the echoes of our praise,
And praise our flag again.

All in concert, waving flags: —

The stars and stripes a hundred years
Have floated towards the sky;
We will be proud of our country's flag,
And love it till we die.

Second little girl, rising: —

Our country is the freest land
On which the sun shines down;
Our flag is loved three thousand miles,
In country and in town.

All, in concert: —

The stars and stripes a hundred years, *etc.*

First little boy, rising: —

The people who have loved this flag
Are living far and near;
To sixty million faithful hearts
This flag is very dear.

In concert: —

The stars and stripes a hundred years, *etc.*

Second little boy, rising: —

And when we boys in future years
To be brave men shall grow,
We will defend our country's flag
From every foreign foe.

All rise, and standing, wave their flags and repeat: —

The stars and stripes a hundred years, *etc.*

EXAMINATION QUESTIONS.

Given at the Lawrence Street School, Newark, N. J., June, 1888.

GEOGRAPHY. — FIRST GRADE.

PRIMARY DEPARTMENT.

MIDDLE ATLANTIC STATES. — 1. Name the largest and smallest state; name and describe the longest river; describe the Appalachian Mountains. For what is Pennsylvania a great center? Where are the laws made for this state?

NEW ENGLAND STATES. — 2. Name these states, five cities that are not capitals, five principal rivers, two capes, and three bays.

Describe lumbering as it is carried on here.

SOUTHERN STATES. — 3. Which two of these states are inland, and which has the most sea coast?

Describe the climate, and tell what metals and minerals are found here, and what is the chief occupation. Pine forests are found in which part, and what articles are obtained from them?

LANGUAGE. — SECOND GRADE.

PRIMARY DEPARTMENT.

(NOTE. — When the question calls for a particular thing, UNDERLINE the example which you give in your answer.)

1. Write a little story of six or more lines, which you have read or heard.

NOTE. — Judge the following points in the composition: —

a. General appearance and margin. *b.* Punctuation as taught. *c.* Capitals. *d.* Spelling.

2. "Anna Hall said she wanted to keep store, so her brother Tom got some jars, and her mother gave her a dish full of apples. Then Tom made the store for his little sister."

a. Select three common nouns. *b.* Select three pronouns. *c.* Select two proper names.

3. Write a statement, using the word *was*.

4. Write a statement, using the word *have*.

5. Write your address.

6. "I live in New York, the largest city in the United States. To reach New York I must cross the Passaic River, and the Hudson River."

a. Select the word used instead of your name. *b.* Write the initials of the proper names.

LANGUAGE. — SECOND GRADE.

GRAMMAR DEPARTMENT.

(NOTE. — When the question calls for a particular thing, UNDERLINE the example which you give in your answer.)

1. Write a composition of twelve or fifteen lines on one of the following subjects: —

a. Fourth of July. *b.* Our Library. *c.* How I would like to spend my coming vacation. *d.* Or a subject of your own choosing.

NOTE.—Judge with reference to the following points: 1. Capitalization and punctuation. 2. Wrong grammatical forms and paragraphing. 3. Character of thought. One letter for each point.

2. "I used to hear a lady practising near us, when we lived in another town. During those Summer evenings her windows were generally open, and I walked to and fro outside to listen to her."

From the above paragraph select and write in a column the following:—

a. A complex sentence, and name the clauses. *b.* A compound sentence, and name subject and predicate of each clause. *c.* An adverb of time, and one of place. *d.* A personal pronoun, and an adjective pronoun. *e.* A prepositional phrase used as an adverb. *f.* An attribute complement.

3. Construct three sentences, illustrating adjective, adverb and noun clauses.

4. Write a sentence, using an infinitive phrase with a complement; also a sentence, using a participial phrase. Tell how each is used.

5. Diagram: He is the greatest man who does the greatest service to mankind.

6. In the above sentence parse *he*, *greatest*, *who*, *is*, and *does*.

7. Use the possessive case, singular and plural, of these words in sentences: Boy, child, my, she.

ARITHMETIC.—SECOND GRADE.

GRAMMAR DEPARTMENT.

1. The following items were sold in Troy, N. Y., by Chas. Kemp to H. B. Nims, Dec. 7, 1883: 21000 ft. of pine uoards, at $16 per M.; 9420 ft. of plank, at $12.50 per M.: 7075 ft. of scantling, at $1.70 per C.; 762 ft. of timber, at $2.62½ per C.; 6840 laths, at $.87½ per C.; and 4790 fence pickets, at $15.60 per M. Make out a receipted bill.

2. A factory turns out 181440 buttons in an hour; what are the net profits in a day of 12 hours, at 2 cents a gross?

3. How many times will a man's heart beat, at an average rate of 73 beats a minute, if he lives to be 72 years old?

4. A company of soldiers set out to perform a march of 10 miles. They march in common time; that is, they take 90 steps 28 inches long per minute. How many hours will it take to accomplish the march?

5. A grocer bought a cask of molasses containing 80 gallons; he sold 54 gallons, 2 quarts, and 1 pint. What was the value of the remainder at 90 cents per gallon?

6. Is a plot of ground 200 ft. square less or more than an acre? and how much?

7. A man built a tank in his attic 5 ft. long, 4 ft. wide and 3 ft. deep; how many tons of water will it contain, allowing 1000 oz. to a cubic ft?

8. A watch chain cost $36, and ¾ of the cost of the chain was $\frac{3}{10}$ of the cost of the watch. What was the cost of the watch? Analyze.

GEOGRAPHY.—SECOND GRADE.

GRAMMAR DEPARTMENT.

1. Describe the United States, and do not allow the description to exceed twenty lines. Let your work be as concise and *comprehensive* as this limit will allow.

2. In the map studies of the second term's work, you were directed to take "only the most important features" of North America. Tell us five of these features.

In answering, you may draw any sketch, map, or part of map, that will help to illustrate your description.

3. Name the five leading countries of Europe, and state an important characteristic of each.

4. Name the five chief rivers of Europe, the most important mountains, and ten leading cities. Tell in what countries the cities are.

5. What form of government prevails generally in the Old World? What form in the New World? Which do you think the better form of government, and why? Give the most important reasons why so many people forsake their homes in Europe and come to America to live.

GEOGRAPHY.—THIRD GRADE.

GRAMMAR DEPARTMENT.

1. Compare North and South America as to size, shape, surface, large rivers, large cities, outline, climate, and productions. (Use from fifteen to twenty lines. Exercise care in penmanship, spelling, and composition.)

2. Draw a map of Asia and Africa, also of Australia, in outlines, noting the oceans, seas, and peninsulas.

3. In a short paragraph, describe the surface of Europe.

4. Into what countries is the island of Great Britain divided? Bound the German Empire.

5. In which group of islands is St. Thomas? San Domingo? Barbadoes? Borneo? San Juan?

Name an ocean of North America, also a sea, peninsula, gulf, bay, mountain, river, and three large cities.

7. What kind of a record have you had during the year in geography? Of what use has the study been to you?

PHYSIOLOGY.

1. What is the difference between food and living flesh?
2. What organs constitute the digestive apparatus?
3. How does food find its way to the stomach?
4. Describe the process of digestion in the stomach.
5. What is the relative position of the stomach, lungs, liver, and diaphragm?
6. What is the common error in regard to eating?
7. What are the natural effects of stimulation?
8. What is the apparatus of the circulation of the blood?
9. Give the circulation of the blood.
10. What arteries supply the stomach with blood?

CIVIL GOVERNMENT.

1. What is a constitution?
2. What is a preamble?
3. What is Congress?

4. In what bodies is the highest legislative power of this state vested?
5. For how long a term is the Governor of this state elected?
6. Why is our government called a representative government?
7. What is meant by a quorum of a legislative body?
8. Can a state engage in war?
9. What is revenue? What is a bill?
10. What are duties, imports, and excises? What are magazines? Arsenals? Dock-yards?

LANGUAGE.

1. Write a sentence containing a pronoun with plural number; a sentence containing a verb in the past tense; a sentence containing an adverb and a conjunction.

2. The man and his brother bought some horses, a house, and some cows, and sold the same to another person. Change the number of each noun and pronoun.

3. Write six sentences to show the difference of meaning in the following words when differently accented, and state what part of speech it is: — progress, conduct, object.

4. I is a pronoun. Parse the nouns and pronouns in the sentence.

5. Write the plurals of the following words: — folly, chimney, pony, monkey.

6. What parts of speech (or kinds of words) are needed to complete the following sentences: —

(1) It must be done ———— today ———— tomorrow.
(2) Live ———— peace ———— all men.

7. Write four nouns that are used only in the plural.
8. Write a sentence containing a modified subject.
9. Write a sentence containing a modified predicate.
10. Compare the following adjectives: — bad — ill — late — near — former.

GEOGRAPHY.

1. Through what waters does a vessel pass in going from Portsmouth, N. H., to Madagascar?

2. What articles do we send from the United States to China?

3. From what countries do we obtain the following articles, viz.: coffee, tea, sugar, rice, cotton?

4. What and where are the following: Cyprus, Ceylon, Ontario, Montreal, Mobile, Alps?

5. Name the states bordering on the great lakes.

6. Locate the following cities, and give some facts concerning each: Washington, San Francisco, Paris, London, Berlin, Chicago.

7. Through what waters would a vessel sail in going from Boston to the mouth of the Danube River?

8. What cargo would a ship carry in going from New York to Calcutta?

9. What in returning?

10. Describe the following rivers: Connecticut, Kennebec, Ohio.

BOOK NOTICES.

MAC COUN'S HISTORICAL GEOGRAPHY OF THE UNITED STATES. One volume, Cloth, 5¼ x 7¼ inches. 43 Maps, with Explanatory Text. Price, $1.00. 1889. New York: Townsend Mac Coun.

This new book contains a most valuable set of maps illustrating to the eye the changes and growth territorially of our country, from the first settlements to the present time, together with clear and intelligible text explaining the same. It shows at a glance the period of discovery, of settlements, the growth, political changes, and the development of the present great Republic, in the most correct and vivid manner possible. It is an invaluable and indispensable aid in teaching the history of our country.

GRANDFATHER'S STORIES. Compiled and arranged by James Johonnot. Pp. 137. New York: D. Appleton & Co.

These historical stories adapted for reading by little folks, will prove an acceptable addition to the list of reading books for the younger children. The teachers and scholars alike will enjoy them. The illustrations, of which there are many, are of a high grade, and the whole make-up of the book is worthy the author, the contents, and the publishers.

THE YOUNG FOLKS LIBRARY FOR SCHOOL AND HOME. Edited by Larkin Dunton, LL. D., Head Master Boston Normal School. Boston: Silver, Burdett & Co.

The volumes of this library are intended for supplementary readers for school use and the home. They are carefully planned to interest, and at the same time give valuable information. The first four volumes are under one general title, "Studies of Child Life," with special titles, as "At Home," "At School," "At Play," etc. The fifth volume is Book I. of "The World and Its People."

The grade of these books is very carefully arranged, Vol. I. beginning with our first readers, and Vols. II., III., IV., and V. being each one grade higher than the preceding number. In addition to their use as reading-books of especially high quality, they have an added value, in that they are admirably planned to create an interest in geography, biography, and the natural sciences.

The style of binding is tasteful and strong, and the type, and cuts, and general make-up are carefully considered and wisely selected.

MANUAL OF RHYMES, SELECTIONS AND PHRASES. Verses for every day. Edited by Oscar Fay Adams. Boston: New England Publishing Co. Pp. 118. Price, 25 cents.

Mr. Adams is particularly fitted to prepare a volume of "Rhymes, Selections and Phrases" for school use, since he is exceptionally familiar with the gems in verse of the writings of both ancient and modern authors, both home and foreign. In this little work is to be found a short selection of Nature poetry for each day in the school year. It is hoped that they will serve to familiarize the children with bits of good verse, as well as to help them to observe more closely the varying aspects of Nature throughout the year. Part II. comprises a selection of "Rhymes for Speaking Times."

COMMON SCHOOL EDUCATION,

DEVOTED TO THE ART OF INSTRUCTION.

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IMPARTING AND TEACHING.

BY MARY A. RIPLEY, BUFFALO, N. Y.

A GENTLY bred woman — the daughter of a well-known artist — a teacher, capable and conscientious, and yet, owing to ill health, and, probably, other subsidiary causes, not financially successful, used to say, on occasion, "I can impart! I can impart!"

What is it to impart? It means to share. I have a quantity of food, and impart of my substance to my poor neighbor. I have a heavy burden of grief, and I impart my sorrow to my dear friend, and thus lighten my heart through sympathy; I am filled to overflowing with gladness, and impart my joy to another open heart which shares my blessing. I know many facts of science; literature is, to my mind, as a familiar palace may be to my feet; the doors swing easily, for I have the commanding touch; the best brains, and the purest souls, and the most charming voices, wait for me; they do not send me away, because I am gloomy; they are not impatient because I am stupid — they bear with all my moods, lovable or hateful. Now I may share this knowledge with another. I may make his mind a storehouse, wherein, orderly to arrange these intellectual goods — he possesses numerous facts of history, and art, and language — I have imparted (Latin, *im* towards, and *partire* to part, divide), these things to him.

Now, is imparting all there is of teaching? Is it the highest work of a teacher? We may suppose that many persons, in the profession and out of it, think that the sole business of the teacher is to impart. That education consists in the collection of multitudes of facts — the larger the heap, the better the education. They demand no order in the placing; they do not discriminate regarding values; they disregard comparison; they follow no principle of selection. They have achieved a huge, chaotic mass; it is neither usable nor marketable. "It has no form nor comeliness"; it has possibilities, for the inherent vitality of the human mind may assimilate that which belongs to it by a certain power of choice, peculiar to living organisms, whether bodily, or spiritual; and disregard and finally overcome the hindrance imposed by the residue.

Is this high art in education? Is it skilled labor? Is it the result of the fine philosophy which ought to permeate the thought and life of the trainer of young spirits? Does it give that power to the student which makes him an effective force in society? which arrays the best that is in him, the strongest that is in him, on the side of civic virtue and private purity? which makes him of such worth, that, were he penniless, yet would his community sooner part with its merchant princes, than with his princely merchandise. Nay! nay! there is better method — there are wiser ways of dealing with the raw material that crowds our public schools, and private seminaries, and college halls; the summons that greets all teachers through this broad land — the morning call renewed with each risen sun is — Come up higher!

Let me remind you of a simple little incident found in one of the Gospels. A suffering woman, one of the crowd that thronged about the Christ, fearing, we may suppose, to approach him openly, contrived to lay her fingers upon his garment's hem. "Who touched me?" asked the Merciful, "for virtue has gone out of me." A mysterious influence, a Divine effluence, it may be, had passed from him; and, for the time, there was a sense, perhaps, of exhaustion. A magnificent teacher said to me, "Sometimes, after my day's work, I think of that story." He felt that virtue, (*vir*, man) — strength and courage — had gone out of him. That kind of teaching signifies something more than imparting facts; something different; something divine. And this different thing is *inspiration*. If in your work with human beings, you fail to get under the ordinary apprehension of certain truths; if you do not arouse love and hate; if you have not that strenuous quality which calls out passion — a passion of worship for that which is worthy; a passion of hate for evil — then do you labor coldly and ineffectively; your own powers are overweighted; they cannot soar; and your disciples, your victims, to a certain extent, lie helpless and sinking, under your hands.

Let me illustrate. A class in United States History is before you. The recitation proceeds. Certain facts are related. We are told that during the summer of 1776, Richard Henry Lee of Virginia, moved in Congress, that "the United Colonies are, and ought to be, free and independent States." And that a committee was appointed to draw up a Declaration of Independence. And that on the fourth of July, its report was adopted. All this may be said and believed; these facts become mental furniture — ornamental trappings for the mind. They have a value used even in this narrow way. But, if you warm up to the glory of this immortal and far-reaching transaction; if you make your class realize that all through these thirteen colonies were men and women watching, and waiting, and hoping, and fearing; that these signers not only cast into the balance their own lives, and fortunes, and sacred honor, but that the lives, and fortunes, and sacred honor of three millions of distressed English subjects went in with theirs; if the old bell rings in their ears, proclaiming "liberty throughout all the land, unto all the inhabitants thereof"; if they hear the glad shouts of the brave people, and the booming of cannon, and see the sky red with the light of bonfires — if, in truth, you can make them feel that they are in at the birth of a great nation — then you have done a nobler work for those young souls, have n't you? You may do just that thing, if you have in you the making of a teacher. But you need a lively imagination, and capacity for enthusiasm. How shall you cultivate these qualities? Let the finest products of imagination be your familiar friends, whether pictures, or statues, or poems; study all beauty to which you can find access; fall in love with your noble vocation; live for it, feeling assured that, in so doing, you are achieving *your* best work for humanity.

Again — your work is in Natural History. You tell your class of the emerging of the dragon-fly from its chrysalis — how slowly and painfully the insect crowds through the narrow aperture into the light and air for which his wings are made; perhaps you have watched his struggle, and helped him on, by enlarging the doorway, thus allowing him to pass forward without the crowding that insures the circulating of the blood into those famishing wings — weak and nerveless until they are fed with the strength that is born of difficulty. You tell them that your defrauded dragon-fly, in consequence of your unwise helpfulness, of your meddlesome ignorance, never uses those withered wings; instead of darting hither and thither, a bit of graceful winged splendor — he awkwardly crawls through his brief life, and never knows the joy of flight.

Will you stop here? Or will you make it a lesson in self-help, in patient effort to do the appointed task bravely and independently? Will you work into his thought, that his business success depends on just the skill, and strength, and truthfulness, and thoroughness that come through school drill, if he will but put good common sense, common honesty into the effort of each day? Or, if you may rise in your teaching, because his plane is higher, will you make the boy *feel* — not simply accept as a well-worn aphorism — will you make him *feel*, that life's struggle from birth to death, is the approved and only possible process through which to win the development of those highest powers of the spirit, which cannot perish because they are indestructible? Will you lead him to see the cruelty of man's mercy when contrasted with "the hardness of God's love?" Shall he learn from you that heavy tasks are compelling calls to higher posts, to nobler rank? Will you say to him — Ah, my soldier boy, soldier in life's grim fight, if you come alive out of this fiery hail, this deadly fray, having bravely borne your bloody flag, and planted it on the enemy's works, you shall be called up higher; there are golden stars shining ahead for you; Forward! March!

HOW TO TEACH SOLIDS.

BY MARTHA I. MEAD, WEST SCHOOL, MALDEN.

IT is always much easier to understand what you have proved for yourself than what you have been told.

During the past year I have been teaching a class of pupils who were studying Compound Numbers for the first time. The ways are many in which Dry, Liquid and Linear Measure, etc., are explained. For the purpose of having Cubic Measure as easily understood, I purchased a box of kindergarten blocks containing a three-inch cube made up of twenty-seven small cubes.

Place this before the pupils and ask them to tell something about the figure. From some one you will receive the answer that it is solid. Then ask how many faces or surfaces it has, and the shape of each face. When you have the answers that it has six surfaces and each of them is a square, tell them that a solid figure bounded by six square surfaces is called a cube.

Show them one of the small cubes and tell them that it is a cubic inch, because it is one inch long, one inch wide, and one inch thick.

After this some one will be ready to measure the edge of the larger cube and tell you that it is three inches, and that the block is a three-inch cube.

To find the contents of the cube, let some one separate the block into three rows, and each row into three piles, and they will be eager to tell you that there are three rows of three piles each, and in each pile there are three cubic inches. 3 × 3 piles equals 9 piles. Each pile contains three cubic inches, then 9 × 3 cubic inches equals 27 cubic inches.

By changing the blocks you can have several different figures from which in the same way you can teach the idea of a rectangular prism, and that a cube is a rectangular prism, but all rectangular prisms are not cubes.

When this has been thoroughly shown, the rule that "the product of the length, breadth, and thickness gives the contents," will follow most naturally, and there will be no wondering how inches times inches times inches gives *cubic inches.*

From this block and the box which contains it, you can easily show that a box three inches long, three inches wide, and three inches deep, will just contain twenty-seven cubic inches, and in this way teach capacity of cisterns, tanks, etc.

SOME MORE BUSY WORK.

BY ELLEN E. KENYON.

WHEN an entire class is required to occupy itself with the reading lesson until each pupil has had his turn at oral reading, a part of the time is wasted by the brighter pupils, while the time allotted may not suffice for a mastery of the lesson by the duller ones. Children thus compelled to wait upon the progress of slower classmates grow sleepy and cultivate a habit of inattention. Children made conscious of their dullness by the fact that the quicker witted are waiting for them, become "nervous" and lose command of what working power they possess. It is better for both extremes of the class that the brighter ones should have the first chance at recitation and be provided with something to do while waiting. The following is one way of managing: —

The day's spelling (consisting of the new words in the day's reading lesson), is on the board and the class begin studying it immediately after the opening exercises. As they convince themselves that they know every word perfectly, they form on a line for recitation, with their backs to the board. The teacher hears each pupil spell all the words. A pupil who, in his haste to get at some attractive form of busy work, has attempted to hurry through the spelling, simply learns the lesson "more haste less speed," for he is sent back to study it more thoroughly. Those who spell correctly are directed to look over their reading lesson.

At the close of the spelling, a few of the brightest readers are called to the line, and they, having read, are told to copy a given portion of the lesson, with attention to all the rules of arrangement and in their best chirography. This task completed, some form of busy work that is varied from day to day and that either attracts them by its novelty or affords them exercise in some of their weaker studies awaits them, and thus they occupy themselves until the slowest pupils have read and copied.

It sometimes happens that a good reader is a poor arithmetician. As a rule, arithmetical busy work, which may take many enticing forms, is the best to occupy the time saved by proficiency in reading.

1. Draw four dominoes, all different, but each bearing ten spots.

2. Make three examples out of this model: *There were* —— ——— *in each box. How many* ——— *in* —— *boxes?* Make them as funny as you like, but be sure to have correct answers.

3. Make as many examples as you can for 14 ÷ 2 = 7.

4. Complete this table: —

1-3 of 18 is 2 more than 1-5 of
1-2 of 16 is " " 1-4 " 16.
1-5 of is 1 " " 1-6 " 24.
1-8 of 8 is 3 less " " 12.
of 14 is 5 " " 1-2 " 14.

5. Draw a picture to illustrate 28 ÷ 7, and write the example under the picture.

6. You took the measure of the schoolyard yesterday, with the rod string. Tell in writing, how far you think it is around: —

Your parlor.
Your garden.
Your tea-table.
The block you live in.
This room.
This building.

7. Solve these examples.

8. Draw a picture of the house you live in, and be sure to get all the windows and outside doors in their proper places.

9. Draw enough birds flying toward a tree, and enough birds flying from it to make together as many birds as I saw in four cages this morning. There were three each in two of the cages, and four each in the other two.

10. Draw yourself, with all the balloons you have left out of a dozen, after selling nine.

PRACTICAL BOTANY.[1]

BY PROF. W. WHITMAN BAILEY, B. P., BROWN UNIVERSITY.

VII.

ANTHOTAXY, OR INFLORESCENCE.

THE arrangement of the flowers on the stem or axis of the plant is known as the Inflorescence, or better, as the Anthotaxy. Its study, which is rather difficult, can be best approached by a series of questions involving observation on the part of the pupil. Let him acquire the fundamental facts before he hears of terms and theories.

Taking any plant in flower, notice, —

1st. What changes, if any, take place in the leaves as one approaches the flower clusters?

2d. If the cluster is an elongated one, where are the oldest flowers found; at top, or bottom? If a flat or broad cluster, do the flowers open first at the circumference, or at the centre?

3d. Are the flowers supported on stalks (pedicels) of their own?

If enough different kinds of plants are provided, the pupils will soon notice that, as regards the Inflorescence, they can be divided into two well marked groups. In one, the development of the flowers is *ascending*, or *centripetal;* in the other, *descending*, or *centrifugal.* Now, as in the first case, no flower actually terminates the main axis, although it may appear to do so, the Inflorescence is called *Indeterminate.* Moreover, as the growth is continuous, and flowers constantly develope from axillary buds, we call it also *Indefinite.* So now, we have gathered a set of terms, any one of which may be used to designate similar conditions, and with but a slight shade of difference in the meaning. Only one is used at a time — as qualifying the *kind* of cluster, and that is chosen which will best present a picture to the mind of the particular conditions. Thus: —

First kind of Inflorescence: — Indefinite, Indeterminate, Ascending, Centripetal. Terms interchangeable.

Any one of these terms applies to any cluster of the first kind, when the flowers (normally) arise in the axils of leaves or bracts. But the choice comes in this way. Suppose a cluster is more or less elongated, and the flowers are relatively younger as we approach the apex of the stem, it would be well to call it *Ascending.* This at once denotes the acropetal order of blooming. On the other hand, if a cluster is flat or pyramidal, the use of the term *Centripetal*, tells us at once that the outer flowers are the older. But, after all, these are really the *lower* ones, brought by a lengthening of the pedicels to a level with the later blossoms, whose stalks remain shorter. So even here, we *might* have said *ascending*. These examples will, perhaps, give an idea of the interchangeable character of these more generic terms. The *specific* name of a cluster is the next thing to settle. Here there are many, perhaps too many, names to learn. The student feels especially aggrieved, who, having spent some weeks over the subject, mastering its details, turns to a descriptive Botany or Manual, and finds how little attention is often given to his *bete noir*. In fact, such books treat the matter very loosely, and one is apt to feel that he has been the victim of a gymnastic exercise. Yet, he must not forget after all, that certain styles of inflorescence often mark large groups, and in connection with other things, help to define them. The time is not lost that is spent in this intricate study.

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[1] Copyright, 1888, by Eastern Educational Bureau.

It helps somewhat to fix the clusters in the mind, if one conceives of the stem, or plant axis, as a series of telescopic joints, which he can extend or close at pleasure. To this pliable series, too, he shall have the privilege of appending bracts or leaves at intervals, and in their axils, flowers with or without stalks.

To make subsequent matters clearer, we must now introduce a brief glossary of terms: —

A Scape. — The flower stalk of a so-called stemless plant, like a Ladies'-slipper, or a Dandelion.

A Peduncle. — A general flower stalk. *A Pedicel.* — A special flower stalk.

A Bract. — A modified, and often reduced leaf subtending a flower, or one of a *series* surrounding a cluster or a single flower; then called *an Involucre*, or circle of bracts. An *involucel*, a subordinate involucre.

A Spathe. — An enveloping bract like that of Indian Turnip.

Now let us start with the *Spike* as our unit. It will represent the telescope drawn out, and with sessile flowers in the axils of the (often) compacted bracts. Raise these flowers on pedicels, so that all are brought about on a level, and the cluster becomes a *Corymb*. Suppress the main axis, and make the flower stalks of nearly or quite the same length, and an *Umbel* results. This may or may not be surrounded by an *Involucre*. Bring all the flowers *sessile* at or near one point, and there is formed a *Head*.

A *panicle* is a branching raceme; a catkin or ament is a pendulous spike; a spadix is a sort of spike, like that of Jack-in-the-Pulpit, often surrounded by a large bract called a Spathe. Any cluster may become compound.

The second kind of Inflorescence reverses the order of blooming. Its simplest form is where one flower terminates the axis, as in a Tulip. If other flowers bloom subsequently, they will be lower down on the stem, so that the development is descending or centrifugal. Such a cluster, too, is determinate or definite, as a flower ends the growth in one direction. So, for the second kind of Inflorescence we now have a series.

Second kind of Inflorescence: Determinate, Definite, Centrifugal, Descending.

While there are many terms defining the clusters of the Indeterminate Anthotaxy, we find only a few for the Determinate. The beginner has most to do with cases of solitary terminal flowers, like those of *Trillium*, or *Tulip;* or with cymes, as those of *Bouvardia*, chickweeds, elder, and the like. The true cyme is a cluster of three flowers of which the central is the first to bloom. But all sorts of tricks are played with this type, in the suppression of one or more flowers, or in addition to the normal number; in the length or suppression of pedicels and of bracts. So, we have the one-flowered cyme of Violets, the scorpioid and helicoid cymes of various orders, etc. Moreover, we may use the terms spike, panicle, raceme, etc., for either kind of Inflorescence, if we qualify the cluster name with a definitive adjective, as, say, the "cymose umbel" of Pelargonium.

Mixed Inflorescences exhibit both types on the same plant. For instance, all the *Compositae*, have the flowers in heads, when the flowerets open centripetally. The heads themselves, however, show a centrifugal arrangement viewed in relation to each other. The *Labiatae*, or plants of the Mint family, very commonly have cymes in the axils of the leaves, but these open in an ascending series; the youngest are near the top.

Nothing is more curious than the Inflorescence of our common edible fig. The fruit we eat arises in the axils of leaves. Here appears to be a fruit formed without a previous flower. But open a young fig, and within will be found the minute flowers. The fig, then, is a hollow receptacle containing flowers.

Often the bracts are the most showy part of a cluster. We have only to instance the Poinsettia of the hot houses, the painted-cup, or Indian paint brush (*Castilleia*), and the Calla, and Jack-in-the-Pulpit.

After this sketch of flower arrangement, we will be able in our next paper to proceed to the consideration of the flower itself.

METHODS IN GEOGRAPHY.[1]

(*Third Series.*)

I.

BY LARKIN DUNTON, LL. D., AND MISS L. T. MOSES.

THE first year's work in the department of nature study was almost exclusively devoted to the acquisition of knowledge through the perceptive powers. The children were busy in seeing, hearing, and feeling the objects in nature to which their attention was directed. The second year, too, they were busy in using their powers of perception, and then representing the things they saw, heard, and felt. The necessity of vividly representing an object made the pupils observe more carefully; so that the second year's work strengthened the first, and at the same time developed another power.

In the same way the third year's work should strengthen the presentative and representative powers of the pupil, and develop still higher powers. We aim to accomplish this by teaching the children this year to see obvious relations between objects of the same kind, and objects of different kinds, which he will be called upon to observe. The objects should be presented and represented in such aspects that certain obvious relations shall be known as a result of directing the attention to those relations.

It will be readily seen that in the preceding work the pupils, from their observation of nature, must have made some inductions, and must have applied those inductions to the acquirement of knowledge outside of their experience. For example, they must have observed many times that a certain direction of the wind has been followed by rain, and so must have made the induction that this special wind brings rain. From this it is an easy step to go beyond the knowledge of any particular instance, when the wind in question brought rain, and make the deduction that on any day when that particular wind blows it will rain. The reasoning is as clear when the child says, "The wind is east; it will rain," as it is when the logician says, "East winds bring rain; this is an east wind; therefore it will bring rain."

We cannot, even if we would, prevent the child from performing these simple acts of reasoning, and such simple acts of reasoning are

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[1] Copyright, 1887, by Larkin Dunton, and Miss L. T. Moses.

therefore natural. But the teacher who decides, that because the advance work this year is in the direction of the development of the reasoning powers, therefore all possible acts of reason should be performed by the children, will signally fail to grasp the spirit and aim of the work, which is to direct the attention of the pupils to some of the most simple relations of objects that are or have been before them.

Among these relations are those of similarity and difference; and the knowledge of degrees of similarity or difference will naturally lead to some simple classifications of the objects studied. The method of treatment can best be illustrated by an example, and it is hoped that the following lesson on the clouds will show the sort of work which will result in the mental development which is among the things these lessons aim to accomplish for the pupil.

Before the actual lesson the pupils should observe the heavens with sufficient care to make clear mental pictures, on three days, the last of which should be the day of the lesson. We will suppose that some days previous the pupils observed beautiful cumulous clouds with smaller fleecy white clouds near the zenith; that the teacher questioned them and found their mental pictures were accurate, and that she had called up pictures every day after the observations. We will suppose that the day before the lesson is given there were fine examples of stratus clouds, and that toward night, above the bands, were broken streaks; that the sky was greyish, but blue near the zenith. The pupils make a mental picture of this, and the teacher satisfies herself of its correctness.

The day for the lesson, we will suppose, is the one following the observation of the stratus clouds. We will suppose the heavens to be nearly covered with clouds, which have been increasing in surface and thickness till, even where the blue was, there is now only a lighter grey, which contrasts with the westward moving darker masses. Below these clouds are small, brown, smoky scuds driving even more rapidly in from the sea.

The children go out of doors and look about the heavens on all sides. They are told that they must see everything clearly, as it will not be convenient for them to go out again.

When all are back in their seats the teacher asks the children to close their eyes and see the sky again as they have just seen it. After she has questioned them sufficiently, and knows that the mental picture is clear, she asks them to look at the banded clouds of yesterday, and then at the lovely sky of a few days before, naming the day.

"Now tell me what things were in the sky these three days."

"You are right, they are all clouds; but are they all alike?"

"No wonder you say 'no' so earnestly. They are certainly very different. Let us see some of these differences. Think first of the color."

The children tell of the beautiful, white, soft edges of the piled-up clouds, of the delicate and varied greys of their surface, and of the fact that they were generally whiter above than beneath. Then they tell of the deeper, duller greys, and of the leaden hues of the banded clouds of the day before; they remember that these bands hardly lightened up even at sunset, though there was a clear place under them, which tried to be golden. And now they tell of the darker grey of the clouds they have seen today, and that they are still growing darker and thicker, while the sky between them is only a misty, grey blue, and nowhere clear blue, and they mention the brown, smoky color of the lower swiftly moving clouds.

"Since you have spoken of those fast-moving, low, brownish, smoky clouds, or scuds, you may think of the movement of the clouds on the three days when you have seen them, beginning at the first day."

The children tell of the slow, majestic, movement, of the piled-up clouds, of the banded clouds which only moved by changing slowly their shape, and of the scuds which seem to fly, while the clouds above them, too, seem to move faster than the clouds moved on either of the previous days.

The slow movement of the banded clouds, indicated by the change of form, suggests that the children think of the forms of the different clouds seen on the different days; and they tell of the beautiful heaped clouds, looking like snow drifts, like piles of wool, or down, or cotton, like distant mountains, like castles for fairies to live in, as one child says. They tell of the banded clouds, nearly straight at the bottom, but broken in curves at the top; of the bands seeming to run into each other at the end, making thus new bands in places, but all long and narrow; they tell how these bands seem to keep near the horizon, while farther up they fade away and become indistinct in a hazy film, while above and among the higher bands appears the blue sky. And then they tell of today's clouds — of the scuds like bits of smoke, chasing each other across the sky, while above them the thick, grey clouds having no particular shape hurry onward, but less rapidly.

And now the children think of the movement of all these clouds, and of what it is that makes them move in the particular direction that they each and all do. They have watched nature so faithfully that they feel sure that it is the wind that makes the clouds move as they do: they move with the wind. When the children are asked what makes the clouds move fast or slow, they feel sure, too, that it is because the wind moves fast sometimes and slow at others. On being closely questioned, the children are sure that the clouds move fast when the wind blows hard, and move slowly when there is little wind; and if there were no wind, they think the clouds would be quite still.

"That is all very well; but how does it happen that at this very moment the scuds move very rapidly, while the upper clouds move less rapidly?"

The children look rather puzzled at first. Presently one little hand after another is raised, and the child called upon says: "I think it is the same as it is when the low clouds move one way and the high ones another way. We saw the clouds last week moving — the high ones to the east and the low ones to the west — and the wind moved to the west as the low clouds did. Don't you remember, Miss Holt?"

"I remember it perfectly, James; for I have seen the same thing many times. But has Jamie told how it happens today that the scuds move faster than the other clouds, children?"

"Then, of course, I want just that answered first; and, afterwards we will speak of the ways we have seen clouds move. John, you may answer."

"I think Jamie was right when he said it was the same as the clouds going two ways. The wind must be going two ways when the clouds go two ways. I am sure that last Wednesday the wind that moved the low clouds was east, for we looked at the vanes; and then you opened the east window, too, and the wind blew in. And I feel sure, too, that way up high, there was a west wind."

"Pretty well done! John. I wonder if I have many boys or girls in my class who could do as well. Mary, do you think you could? I will give you something quite as hard to do. In the first place, did John answer my question?"

"No, he did not, Miss Holt, for you asked him about the clouds today, and he told you about them last week. I think it is something like what John said. I think the wind way up high is blowing in the same way that it is here, east; but I think it does not blow so hard up there as it does down here, and so the clouds do not get on so fast."

"How many think Mary has done as well as John? You all do, and so do I. What is it, Fred?"

"I think Mary has done better than John, because she answered your questions."

"But John helped," said Mary.

"Yes, together they have answered it all. I think it takes both answers to make it clear. There is one thing more I want to know, and that is, how you all know how the wind blows up where the clouds are, when you have never been up there to see?"

The children thought for a moment, and then Nellie, who was called upon said that they saw the clouds move, and that told them about the wind.

"Ye-e-s, Nellie; but will that surely tell, do you think?"

Nellie looked puzzled: but Will said that he had seen the clouds move the way the wind did hundreds of times, and that made him feel sure that the clouds always did just that. The other children agreed with Nellie, and the teacher thought they were right; and she was glad that they had watched so well that they had found out something about the clouds far above them. Indeed, it would not be surprising if they had found out other things. She would like to know what they thought the weather would be.

The answers of the eager children all indicated that they expected rain. They were asked for their reasons and gave these: "The wind is east, and it rains when the wind is east." "The low, fast-moving clouds coming in from the sea always bring rain." "The clouds are growing thicker and larger, — for I looked three times before school, — and that always means rain."

As the teacher still waited, the children set themselves to think more about the signs of rain. But no one thought of anything else.

"I think," said the teacher, "that other things tell us it will rain. I noticed something about the smoke when I came to school this morning. I often think, too, that some animals and some plants know when it will rain. The clouds at sunrise and sunset help me to know too."

The children resolve to watch the smoke, the trees, and flowers, and the birds, and other living creatures, so that they may see all that their teacher has seen. They said they would look at the clouds at sunset for signs of rain, though they looked now every night for beauty.

Now, once more, the children shut their eyes and look at the piled-up clouds and remember that they have many times seen such clouds. They are told that these heaped-up clouds are named cumulous clouds, and that whenever and wherever they see them they may know this name. Then they are told that all banded clouds are stratus clouds, and that such grey heavy skies as they have today are made by the rain clouds.

The teacher tells the pupils that there is another kind of cloud quite different from those they have seen today, besides clouds that are partly of one kind and partly of another, and they resolve to watch for the different kinds and also for the mixed clouds. They think they would like to know which kind of clouds we have most frequently; and so the teacher writes the names of the three kinds which they have already found, on the board, and the children resolve to put a mark each morning under the name of the clouds they have seen that morning. Of course, the children are told that cumulous and stratus mean just what they have named these clouds heaped or piled up and banded.

The uses of the clouds to people, giving shade, rain and beauty, are named. The children are encouraged to dwell upon the great beauty of the clouds and upon their love of watching them. They think of the use of clouds to the animals and plants, and decide that the plants must love and need the clouds more even than the cows and the birds, which much love a shady place.

The numerous things that they still want to see are told by the children. The recapitulation of the things they have found out is made, and the lesson closes by the reading of some selections of poetry which express with beauty the things the children have seen.

LANGUAGE LESSONS AND EXERCISES.[1]

(*Second Series.*)

VII.

BY L. W. RUSSELL, A. M.

USE OF THE HYPHEN, CONTINUED.

WHILE the list of compound words now consolidated, but, at first, hyphened, is constantly increasing, it is also true that new hyphened words frequently appear. This is the result of a need for new words arising from the activities of our people as they progress in their greatly varied lines of thought and industry. Inventions call for new words, science in its growth must have them; and people, in their modernized ways of living, in their home life and social relations, compound words from old ones, and, one by one, the dictionaries adopt them. This increasing use of the hyphen is an important thing in the growth of our language, and emphasizes the need of a careful study of its proper employment.

In teaching this matter to pupils, attention should be called to the usefulness of the hyphen in forming compound words, which, in many instances express, in a compact and vivid way, what, otherwise, would be but poorly conveyed by whole sentences. In continuing the uses of the hyphen from the last article of this series, we shall place as, —

19. Forming compound words to avoid awkward and disagreeable circumlocution; or, to give vividness to modifying expressions, as in the following: —

A care-worn look; a public-spirited citizen; a well-to-do farmer; a matter-of-fact person; a don't-think-of-the-morrow kind of man; a busy-body: the "Willing-Workers"; a hand-to-hand fight.

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[1] Copyright, 1888, by Eastern Educational Bureau.

20. The following words are frequently compounded with participles or adjectives to form noun modifiers; *all*, — as all-seeing, all-wise, all-knowing, all-commanding; *so*, — as so-called, so-named, so-stated; *ill*, — as ill-mannered, ill-advised, ill-judged; *well*, — as well-meaning, well-known, well-informed; *above*, — as above-named, above-mentioned, above-cited.

21. *School* compounded with a participle following, is hyhened; as school-teaching, school-working, school-fitting, school-bred. Our school-teaching days; a school-working model, etc.

In reference to a considerable list of other compound words beginning with "school," the dictionaries differ in regard to the use of the hyphen. The present practice of most writers, however, is to consolidate those words which have been in long and frequent use. This seems best, too. There is nothing whatever gained by using the hyphen in words which have become so thoroughly unified as schoolboy, schoolfellow, schoolmaster, schoolmistress, schoolhouse.

In some other instances the word "school" is so clearly an adjective or so fully a separate word, that the two words are better written apart: among them are, — school committee, school teacher, school days, school children, school district, school managers.

22. When "school" follows a modifying word it should not, usually, be compounded; as primary school, grammar school, high school, riding school, swimming school, fencing school, etc.

23. When a present participle is compouded with a noun or an adjective there appears a lack of coherence between the words which is best obviated by use of the hyphen, and nearly all such compounds are thus treated; as, the composing-room, a dining-table, a sky-piercing summit, a wire-pulling politician, a hard-working man, a swift-running stream, a fine-looking picture, a far-reaching influence, a wide-spreading calamity.

The above-named uses of the hyphen in compounding words do not comprehend all which might be formulated, but the intent has been to include those which are most important. As the matter of its use or rejection is so largely left to the discretion of the individual writers or printers themselves it is important that they have in mind whatever of guiding principles there may be to aid them.

Generally speaking it may be said: Use the hyphen, —

(*a*) When the retention of the original accent on the words compounded renders this tie necessary to make the words appear as one.

(*b*) When words are compounded in an unusual way to express essentially one idea.

(*c*) To join prefixes to primitives so as to prevent a misunderstanding or a mispronunciation of the words.

(*d*) To show what words naturally belong together in expressing numerals.

(*e*) To unite all newly compounded words.

Avoid the use of a hyphen, however, where it would add nothing to the clearness of the sense intended, or to the vividness of the expression.

Use of the hyphen in dividing words according to pronunciation, origin, form, etc.

1. The hyphen is placed between the syllables of a word to indicate the portions to be uttered by single impulses of the voice; as, in-com-pat-i-bil-i-ty.

2. To show its origin or import; as, ortho-graphy, geography, re-creation, re-formation, theo-logy, astro-nomy, bio-grapher, anti-podes, mono-poly; *for pronunciation*, as-tron-o-my, mo-nop-o-ly, etc.

3. To divide a word at the end of a line, when a part of the word must be written on the next line.

This is one of the most important uses of the hyphen, yet it is often improperly employed. The following points should be heeded: —

(*a*) Never divide a syllable at the end of a line.

(*b*) If a compound word is to be divided, it should be so done as to show its principal parts, thus: *school-master* is preferable to *schoolmas-ter; hand-writing* to *handwrit-ing: ortho-doxy* to *or-thodoxy.*

(*c*) Do not begin a line with a syllable of a single letter; as, the *a* in *cre-ation:* divide this word *crea-tion*.

(*d*) Do not end a line with the first syllable of a word, if it be a single letter; as *e-ternal*, *a-bandon*, *i-ambic;* better *eter-nal*, etc.

A word like *i-de-a* should not be divided at the end of a line.

Avoid dividing a word ending with the syllable *ed;* as *inflam-ed*, *defac-ed.*

EXERCISE.

1. Following, the compounds are all consolidated; hyphen such as should be thus treated, and give a full sentence to illustrate the meaning.

A wellbalanced mind, truthseeing power, a newspaper, the windgod, sailorboy, a fellowcreature, our countrymen, an earthquake, a childheart, illbred boys, all railroads, means of selfindulgence, old landmarks, the preoccupied mind, the first of the boykings, the fountainhead of crime, a lowminded person, a surfbeaten shore, my inkstand, your penknife, the workbox, our birthright, the ballroom, the postoffice.

2. Bring to the class lists of compound words, hyphened and consolidated, selecting the same from books and newspapers. Show the reasons, as far as possible, for the form given, and correct mistakes, if found.

Exercises upon hyphened words, finding such words in books, looking for the reason for using or rejecting the hyphen in compound words, illustrating the use of such words in sentences and little stories, all together, give a large amount of valuable language practice. The work should be distributed over some years of school life.

FOUR FRIDAY AFTERNOONS ON HISTORY AND GEOGRAPHY.

BY RUFUS ALDRICH.

III.

A JOURNEY TO FLORIDA.

TEACHER: — Before we can enjoy the climate or tropical fruits of Florida, or see the famous towns where the early settlers landed, we must take a long journey. It is eight hundred miles or more to the northern boundary of that land which Ponce de Leon reached on Easter Sunday (Pascua Florida, in Spanish), 1513. What way did you select, Henry, as the pleasantest journey? We will start from New York.

Henry: — I should rather go by boat. We can take a steamer and go all the way to Savannah. That would give us a delightful sail, and, unless we kept too far out to sea, we should have a good view of nearly the whole eastern coast of our country. From Savannah, I would take the cars for Jacksonville, Florida, and from there we could go to almost any point in the state.

Marion: — If we wanted a longer sail we could go to St. Augustine. There are two lines of steamers that go all the way, though for myself I think I should prefer going by cars, as I don't like the water.

Teacher: — A great many persons would prefer to go by cars, and we will discuss the routes later, but first I would like to have some one tell us another way that we could go by boat part of the way, and then go by rail.

Hattie: — We might take the steamer as far as Norfolk, and from there go by rail through Raleigh and Columbia to Charleston, then to Savannah and Jacksonville. I think that is a very popular route.

Teacher:—These are the three best water routes, now who will tell us about the land routes?

James:—For any of the routes we would have to go through Philadelphia and Baltimore to Washington, I should think. From there we could go down to Richmond, and then join the route that Hattie suggested from Norfolk, through Raleigh and Charleston, or I think there is a road through Wilmington that is travelled somewhat, but that would be rather low, being so near the coast.

Teacher:—Yes, that is the worst part ot these routes; but there is one that none of you have mentioned which goes through a much higher and pleasanter country, and one that is not devoid of historical interest. Does any one know what I mean?

Frank:—I think you mean from Washington, instead of going to Richmond, to cross the Blue Ridge and go to Knoxville, and then to Atlanta, and on to Jacksonville. As the road crosses the mountains and runs along by their side, it must be a higher country than so near the seashore, and would be much pleasanter, and the scenery would be finer.

Teacher:—This is the way I should like to go. What points of historical interest should we pass?

Mary:—We should go near Chattanooga, where one of the most remarkable battles of the war was fought. Lookout Mountain, where was fought the battle above the clouds, is near, and Missionary Ridge is very near the track.

Teacher:—This will be all the time we can spare for the journey to the state. We cannot see everything even when travelling. If we go by boat to St. Augustine, we shall want to know something of that quaint old city, and even if we go by cars to Jacksonville we shall want to run down to St. Augustine, so will Grace tell us just a little of the town.

Grace:—St. Augustine is the oldest town in the United States. It was founded by Menendez with nearly 3,000 Spaniards, in 1565. Land was first seen by this party on the day consecrated to St. Augustine, so Menendez gave that name to the town. The old Roman Catholic church has a bell bearing the date, 1682. The building, which is now the United States barracks, was originally a Franciscan convent, but has been so changed that little but the foundations of the original building now remain.

Teacher:—If some one will give us a word or two about Atlanta and Charleston, then we will be ready to speak of the productions and industries of Florida, and I suppose some of you are anxious to learn about the cedar that comes from Florida for our use.

Nellie: — Atlanta is the great railroad centre of the South. It played a considerable part in the war, but not so great a part as Charleston.

George: — The reduction of Fort Sumter, the principal harbor defence of Charleston, was the first conflict of the civil war and the first triumph of the Confederate arms. During the last two years of the war the city sustained a protracted siege and bombardment, and was finally evacuated by the Confederates, Feb. 19, 1865.

Teacher: — Who has found anything about Florida more than the general description of its climate and appearance as given in your geography? Well, Mary, what did you find?

Mary: — I found a book in the Public Library which gave a description of Florida. It told of the beautiful orange groves loaded with golden fruit. A great many northern people have gone south and bought land in Florida for orange groves, so that the country is very different now from what it was a few years ago. Father says, that the yellow fever scare will make a great difference to the country, as people will not care to go where such a dreadful scourge is prevalent. This book said that some of the rivers were very beautiful, the water being clear, the banks of the rivers lined with long rows of palmetto. Fish and game abound, flocks of wild turkey fly about, and occasionally a blue and white heron promenades the water's edge, or an alligator is seen lying in the mud.

Teacher: — Thank you, Mary, that will give us an idea of the country. Did any one learn anything about the Florida cedar? Well, Howard, what have you learned?

Howard: — My father has been to Florida, and he went up several of the rivers on fishing excursions. He said that a great deal of cedar is carried away from Florida every year for lead pencils. He saw the men at work getting the wood, and, at one time, saw a cargo of cedar which the men said was to go to Jersey City to make the Dixon pencils. I suppose it must have been cut ready for use as we learned two weeks ago.

Teacher: — Has any one else found anything about the cedar?

Grace: — After we had our lesson on Ticonderoga, I was so interested in pencils that I kept talking about it at home, and father brought me home a paper entitled "Genius." It gave a very interesting account of how the cedar used for making pencils is obtained, and told about the mill where it is cut into proper lengths to send to Jersey City. Was it not strange that he should happen to find a paper giving an article on that very subject?

Teacher: — When one is really interested in a subject it is wonderful how much information he will happen upon in that same line. You probably interested your father by saying so much about the matter. How do they get the timber? It would have to be cut and carried to the mill before anything can be done with it.

Grace: — A boss forester, at the beginning of the season, hires his gang of men, buys his oxen and tools, and goes to work felling trees. He draws his supplies of food from the store on credit. After the season is over he has upon the river bank, thousands of hewn logs. The mill superintendent then looks at his logs, and, if a bargain can be made, buys them, paying cash for the wood. The boss forester goes to the store and settles his account and is ready to begin over again. The mill superintendent then arranges a raft and floats the logs down to the mill.

Howard: — Father went up Crystal River, on the Gulf of Mexico coast where the cedar mill is located, and he said the mill was two stories high, and eighty feet by forty. There is a settlement of about eleven hundred persons, a good store managed by a woman, well known all over Florida, who has wonderful ability. Her oldest son is the mill superintendent and selects and purchases thousands of dollars worth of cedar logs yearly.

Teacher: — It must be necessary to purchase a great many logs, as fifty millions of graphite pencils are made annually from these cedar logs. What is done with the wood when it reaches the mill?

Howard: — The logs are rafted to the mill and drawn out of the water by a windlass run by steam. In the mill are all kinds of saws, and when the wood has been through the different saws it comes out in little boards seven inches long, two inches wide, and half the thickness of a pencil.

Frank: — I read that German, Belgian, English, and American pencil makers all go to Florida for wood for their best grades of pencils, and that they are using the timber faster than it grows, so that after a time the supply will be exhausted.

Teacher: — Both the Dixon and the Faber pencil companies have mills of their own in Florida, and I think the mill of the Eagle pencil company and others are at Cedar Key. For Monday's English lesson you may give an account of a fishing excursion up one of the Florida rivers, or a journey to Florida. For next Friday's exercise we will take Puget Sound, the way to get there, how that part of the country differs from the Atlantic slope, and see how interesting you can make the lesson. There are a great many books from which you can gain information by a little careful search.

THE HISTORY OF OUR COUNTRY: HOW TO TEACH IT.[1]

BY WILLIAM A. MOWRY.

(*Second Series.*)

V.

THE TREATY OF 1783.

THE revolutionary struggle for freedom was practically closed by the battle of Yorktown and the surrender of Lord Cornwallis. The revulsion of public sentiment in England was complete, producing the resignation of Lord North. A new cabinet was formed more friendly to the cause of the rebellious colonies, thereby ensuring an early settlement by treaty in which the British government must necessarily acknowledge the independence of the United States. We were fortunate in the character and statesmanlike ability of the distinguished men to whom was intrusted the difficult task of forming a treaty with the mother country. That treaty was executed at Paris in 1783. The three important points in dispute, after the British minister had yielded the question of absolute independence, were: —

(1) The northwestern boundary.
(2) The fisheries question.
(3) Compensation to the loyalists.

That we were able to secure any treaty at that time was due to the oldest of the commissioners, Doctor Franklin; that we secured our rights in regard to the question of fisheries was undoubtedly due to John Adams; and what has proved of the greatest importance to our country, the securing of that great territory northwest of the Ohio, is principally due to the foresight, sagacity, and firmness of John Jay. The British Commissioner finally withdrew his request for compensation to the loyalists. Franklin was slow to distrust the French government. Jay and Adams clearly saw that France was playing into the hands of Spain. The Spanish minister, Count D'Aranda, had expressed himself favorable to the Ohio River as our northwestern boundary. The evident intention of this was to annex that important section lying between the Ohio and the great lakes to the Spanish province of Louisiana. The British commissioner, Oswald, granted that our claim to that territory was just. Congress had tied the hands of the commissioners by definite instructions that they "should take no step without France." Our commissioners finally cut the knot by agreeing

[1] Copyright, 1888, by William A. Mowry.

with Oswald as to the terms of the treaty and signing that treaty without the knowledge of France. Of course the French minister, Vergennes, was displeased, but the deed had been done and he must make the best of it. This he proceeded to do, and owing largely to the courteous and diplomatic letters of Doctor Franklin, all opposition was dropped and the treaty as already signed was confirmed.

This stroke of diplomacy was of the greatest consequence to the future development of the young republic. The territory thus secured was that great tract included between the Ohio on the southeast, the great lakes on the north, and the Mississippi River on the west. It included the present states of Ohio, Indiana, Illinois, Michigan, Wisconsin, and about one-third of Minnesota. This country, of the greatest fertility, a salubrious climate, well watered and favorable to commerce, embraced more than two hundred and sixteen thousand square miles, — a territory larger than France, or Spain, or Germany. Within this territory today there resides nearly one-third of the population of the entire country, and here are produced nearly one-third of the wheat, Indian corn, oats, potatoes, and hay raised in the United States. One of the best means of determining the civilization of any country is by reference to the number of miles of railway which it contains. Judged by this criterion the territory northwest of the Ohio would show the highest civilization of any equal area in the world. Within the past one hundred years its population has grown from a few thousand emigrants from the East to nearly, if not quite, fifteen million people, or one quarter of the population of the entire country. The growth of its great cities has been something remarkable. In less than sixty years the city of Chicago alone has changed from a village of less than one hundred persons to a great city of more than a million inhabitants.

In view of these facts what great importance should be attached to the foresight, statesmanship, and diplomacy of our commissioners in securing in spite of the greatest difficulties this important territory by the treaty of 1783.

In teaching this subject these facts of cause and effect should be brought to the careful attention of the members of the class. Among the important books which may be consulted are: —

"Treaties and Conventions of the United States," published by Congress.—"Diplomacy of the United States," by Theodore Lyman. Vol. I., pp. 86-130.—Justin Winsor's "Narrative and Critical History of the United States." Published by Houghton, Mifflin & Co. Vol. VII. —"Bancroft's History of the United States." Vol. V. (New edition.) Pp. 562-581.—"Franklin in France." Edited by Edward Everett Hale. Published by Roberts Brothers, Boston. Vol. II.—Hinsdale's "Old Northwest." Published by Townsend Mac Coun, New York.

METHODS IN DRAWING.[1]

BY MRS. MARY DANA HICKS.

Director of Prang's Normal Drawing Classes by Correspondence.

V.

IT has been previously stated, that in order to draw well there are three indispensable requisites.

First: The idea to be expressed.

Second: Facility in execution.

Third: Knowledge of the conventional ways of using Drawing.

Having considered the methods of acquiring ideas of form by Observation, Thought, and Expression, and also the method of gaining Facility in Execution through free movement, correct position, proper pencil-holding and drill exercises, the third subject, Knowledge of the conventional ways of using Drawing, demands our attention.

CONVENTIONAL WAYS OF USING DRAWING.

Drawing is used in three ways: —

1. As expressing ideas of the Construction of objects.
2. As expressing ideas of the Appearance of the form as wholes.
3. As expressing ideas of the Decoration of objects.

In studying these three ways of expressing Form ideas through Drawing, it is found that each has elements and principles peculiar to itself, and that each may be considered therefore as a distinct subject.

The three subjects are called: —

1. Construction.
2. Representation.
3. Decoration.

Each expressing by its name its special purpose.

The first subject, Construction, deals entirely with the facts of form, beginning with the simplest elements, as the facts of form of a cube or of a square prism, and advancing to the study of the most complicated building or machine construction.

The inventor of machinery, the civil engineer, the architect, having perfected their grand conceptions in their minds, find in Constructive drawing a perfect means of conveying their conceptions to the builders

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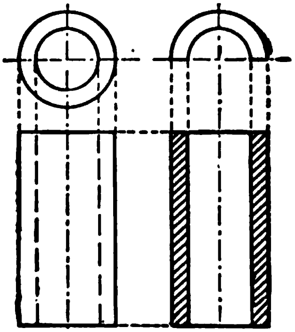
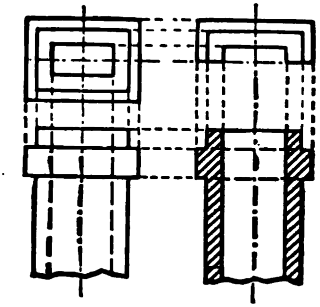
[1] Copyright, 1889, by Mary Dana Hicks.

and workmen, who in their turn, guided by the drawings construct the machinery, rear the bridge, or build the cathedral.

The steps in all manufactures and in all structures, whether simple or grand are the same: first, the idea; then the expression through constructive drawing; then the manufacture or building.

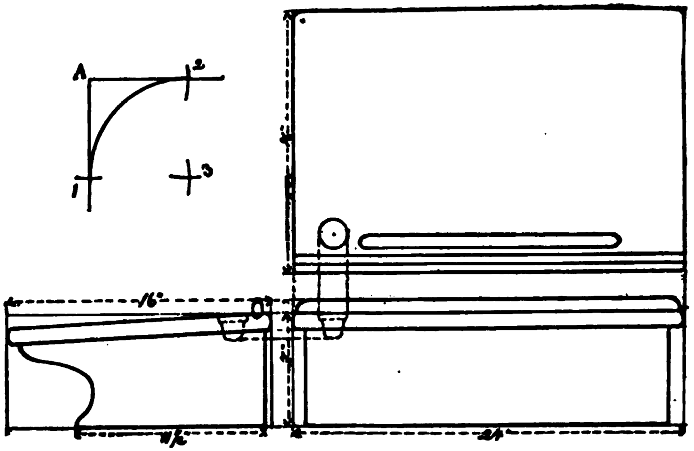


HOLLOW CYLINDER.
Front and Top Views — Section.



CHIMNEY.
Front and Top Views — Section.

Some simple examples of constructive Drawing are given to illustrate the subject.



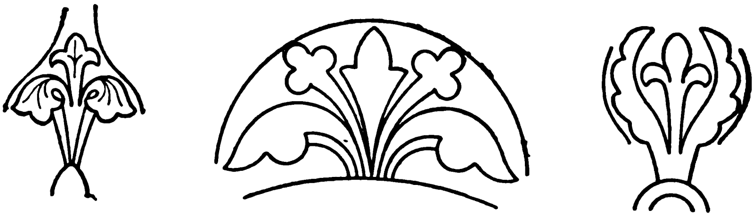
WORKING DRAWING OF SCHOOL DESK — BOX.

The second subject, Representation, deals entirely with the appearance of objects as wholes, beginning with the simplest type forms and objects based on them, and advancing to the highest representative art, whether in landscape, portraiture, or figure composition.

In Representation, the Form idea of the artist or the conception, is expressed through Drawing, which is the final step; whereas, in Construction the Drawing is the language by which the inventor, civil engineer or architect conveys his ideas to the workmen that *they* may produce the final stage by building or by manufacture. All pictorial Drawing comes under the head of Representation. An illustration is given.

GROUP OF TWO OBJECTS.

The third subject, Decoration, deals entirely with Ornament applied to objects to increase their beauty and enhance their value, beginning with the study and repetition of simple geometric figures and advancing on the one hand to Historic Ornament, which opens so broad and interesting a field of study by its reflection of the character of the various peoples who developed the various styles, and on the other hand into Decorative Design, through which the style of the present day is being slowly formed.

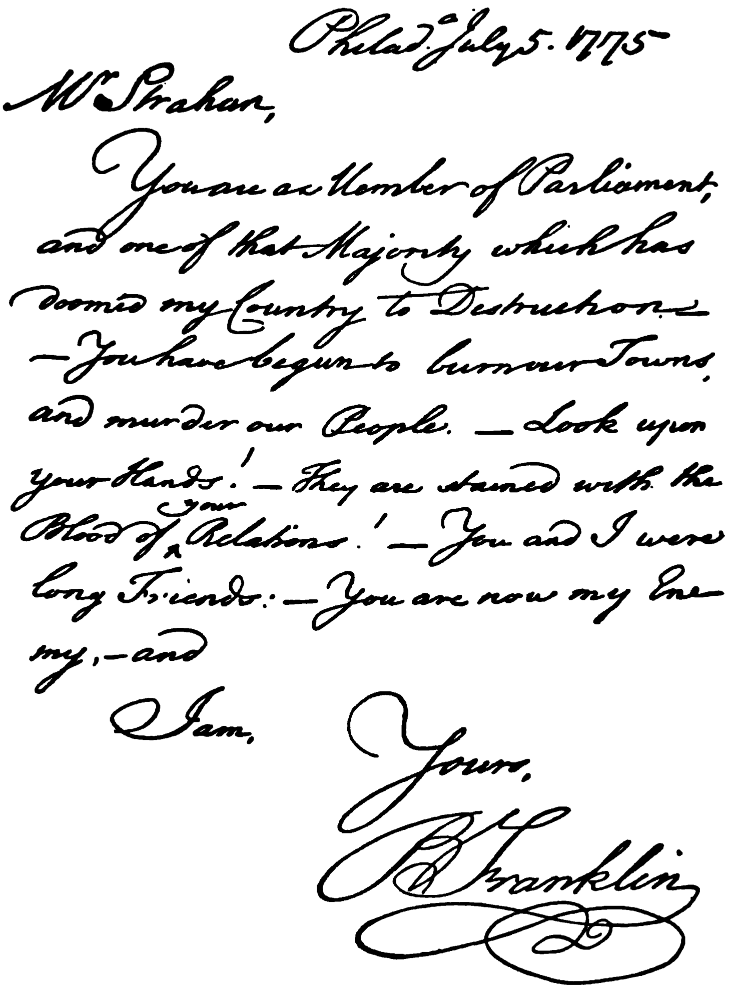


13TH AND 14TH CENTURY GOTHIC ORNAMENTS.

FRANKLIN'S LETTER TO STRAHAN.

COPY OF FRANKLIN'S LETTER TO STRAHAN.

Reduced in Size.



Philada July 5. 1775

Mr. Strahan,

You are a Member of Parliament, and one of that Majority which has doomed my Country to Destruction. — You have begun to burn our Towns, and murder our People. — Look upon your Hands! — They are stained with the Blood of your Relations! — You and I were long Friends: — You are now my Enemy, — and

I am,

Yours,

B Franklin

FRANKLIN had a friend in London, a bookseller, with whom he had kept up a friendly and business correspondence for many years before the Revolutionary war. The war broke off their corre-

spondence. Franklin's last letter at the commencement of hostilities has become famous from its closing sentence: —" You are now my enemy and I am yours." But it has been a question whether this was the form in which Franklin wrote it, or whether it should be printed as follows: — " You are now my enemy and
I am Yours."

The latter has been the generally received opinion, especially because after the war the friendly correspondence was resumed. The foregoing is a *fac simile* of the letter, reduced in size, and it settles a historical question of considerable interest. It is with pleasure that, through the courtesy of Messrs. Ginn & Company, we are able to give this *fac simile*, which is taken by permission from " Franklin: His Life by Himself," edited, with a " continuation of his life," by D. H. Montgomery, and forming one of the best books in Mr. Ginn's excellent series, styled " Classics for Children."

THE STUDY OF SYNONYMS.

BY RUTH E. MOWRY.

RESOLUTION, DETERMINATION AND DECISION.

1. All three words are derived from the Latin.
2. All three refer to a settlement or conclusion.
3. A choice between action and inaction is RESOLUTION.
   A choice between one motive and another is DETERMINATION.
   An irrevocable choice is DECISION. DECISION commonly implies a choice among several courses of action, and is an act of the mind, while RESOLUTION is an act of the will. RESOLUTION is a promise to make one's self undertake a thing. DETERMINATION is a less energetic form of DECISION. Both DETERMINATION and DECISION are at an end when the action has been entered upon, but RESOLUTION may be carried on into the action itself.
4. " Martin Luther was equally distinguished for his prompt DECISION, his steadfast DETERMINATION, and his inflexible RESOLUTION."

DECIDED AND DECISIVE.

1. Both are derived from the Latin.
2. Both come from the same Latin verb, meaning to cut off. They are both positive, free from uncertainty.

3. DECIDED refers to that which is so fully settled as to leave no room for doubt. The term is applied equally to persons and things.

DECISIVE refers to the power or quality of deciding, and is applied only to things.

Thus we speak of a DECIDED preference for a quiet life, and of a DECISIVE battle, meaning that it will decide the future.

4. "Thyself hast DECIDED it." "The sentences of superior judges are final, DECISIVE and irrevocable."

DECEPTION AND DECEIT.

1. Both are derived from the Latin.
2. Both refer to deceiving or misleading.
3. DECEPTION usually refers to the act, and does not always imply aim and intention, but may be undesigned or accidental.

DECEIT refers to the habit of the mind, and springs altogether from design.

4. "There is no one thing, relating either to the actions or enjoyments of man, in which he is not liable to DECEPTION."

"A modest blush he wears, not form'd by art,
Free from DECEIT his face, and full as free his heart."

HOW TO SECURE ATTENTION.

1. Manifest an interest in the subject you are teaching.
2. Be clear in thoughts and ready in expression.
3. Speak in your natural tone, with variety and flexibility of voice.
4. Let your position before the class be usually a standing one.
5. Teach without a book as far as possible.
6. Assign subjects promiscuously when necessary.
7. Use concrete methods of instruction when possible.
8. Vary your methods, as variety is attractive to the children.
9. Determine to secure their attention at all hazards.

— *Edward Brooks.*

EDITORIAL.

CONDUCT as well as scholarship should be considered in promotions.

THE teacher who can sketch on the blackboard rapidly has extra power to instruct.

PHYSICAL exercises every hour should never be omitted for want of time, or because the lesson is so interesting.

A THOUGHTFUL teacher will rarely send to the office for paper or pencils during school hours, but before or after school.

SUPERINTENDENT BALLIET well says: "A course of study may be made a helpful servant or an exacting task-master."

A TEACHER who does not meet frequently a fellow-teacher and exchange ideas, loses one of the best means of advancement known in our profession.

DO not measure the dull boy by his position in the class, but by his patience, perseverance, his power to say No, his physical strength, and his ambition.

DO not allow the children to answer indiscriminately in concert. Concert work is of very little value in any grade. It may sometimes be employed in primary grades "just for variety."

THERE is nothing our schools need today more than uniformity of work. A course of study by the Superintendent helps to bring this about, but the details must be thought out and put into practice by the principal.

WHAT seems at first simpler to understand fully than the follow- signs: — $2 \times 4 = 8$; $8 \div 2 = 4$, yet how many teachers in a grammar school will agree upon the exact meaning of these expressions, and who will write them in words, or illustrate them by objects or marks, in the same way? Try it in your school.

OBJECT teaching ought not to become lecturing.

IF teachers are not faithful in the discharge of their duties how can they expect their pupils to be?

IN education as well as in religion, there ought to be union in essentials and liberty in non-essentials.

PUPILS frequently have their flagging interest aroused, if encouraged by the teacher to ask questions.

A FORTUNE awaits the inventor who will make and sell for a reasonable sum a papier-maché raised globe of about eighteen inches diameter.

TEACHERS, Superintendents, and Boards of Education are, or at least should be, mutual helpers of the same good cause, and working for the same grand result, — the rearing of good citizens.

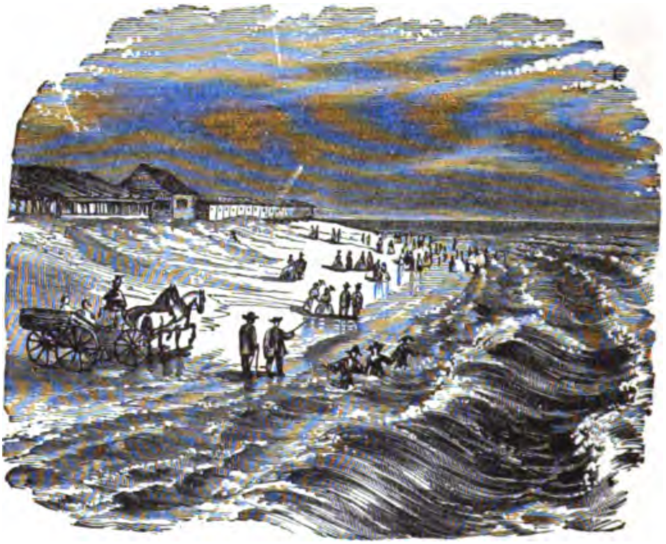
"HE had convictions, and he had the courage of his convictions," was truly said of a principal who for thirty years never was afraid to advocate the right as he understood it. Such teachers are always respected.

WE have recently visited some schoolrooms where the teachers have a genuine love for plants, and have seen a rich and beautiful display of green in the windows. It is not at all necessary that the plants should be in constant bloom to be attractive. The children soon learn to enjoy the growth and color, and are happy to help in taking care of them. One teacher has a long box in which each child plants something and watches it as it grows.

BY nature she seemed to be a strong disciplinarian. The order in her room was good, and many a visitor had gone away saying, "I wish I could hold a class as easily." And yet this teacher was punishing with the rattan four and five boys every month, from years of habit and because no one had suggested the need of any other action. When the attention of this teacher was called to her own record as compared with others and help offered to remedy the matter, she wisely determined "to try." By substituting more humane methods of punishment, by overlooking acts of restlessness and nervousness, by appealing more to their honor and love of praise, she reduced the record at once fifty per cent. without changing the good order of the room. Try it.

HAPPY HOURS.

AT THE SEASIDE.



[In this cut the children will discover a seaside house, bathing houses, a sandy beach, a carriage with two horses, driver and passengers, and the rolling waves with bathers, and many persons on the shore. Let them look carefully at the picture and write a story of a summer's vacation day at the seaside.]

GROWN-UP LAND.

"Good-morrow, fair maid, with lashes brown;
Can you tell me the way to Womanhood Town?"
"Oh, this way and that way, never a stop.
'T is picking up stitches grandma will drop,
'T is kissing the baby's troubles away,
'T is learning that cross words never will pay,
'T is helping mother, 't is sewing up rents,
'T is reading and playing, 't is saving the cents,
'T is laughing and smiling, forgetting to frown,
Oh, that is the way to Womanhood Town!"

"Just wait, my brave lad, one moment, I pray;
Manhood Town lies where? Can you tell the way?"
"Oh, by toiling and trying we reach that land, —
A bit with the head, a bit with the hand!
'T is by climbing up the steep hill Work,
'T is by keeping out of the wide street Shirk.
'T is by always taking the weak one's part,
'T is by giving the mother a happy heart,
'T is by keeping bad thoughts and actions down,
Oh, that is the way to Manhood Town!"

And the lad and the maid ran hand in hand
To their fair estate in Grown-up Land.

— *Selected.*

THE ANTS.

Ants, ants, little ants,
  What are you about,
Running all so busily,
  Climbing in and out?

Do you build a city?
  Do you choose a king?
Or lay up a store of grain,
  Or any other thing?

You seem to be so busy;
  Have you no time to play?
Ants, ants, little ants
  Where have you run away? — *The Kindergarten.*

RECITATION.

"Sixty seconds make a minute,
  Sixty minutes make an hour."
If I were a little linnet,
  Hopping in her leafy bower,
Then I should not have to sing it, —
  "Sixty seconds make a minute."

"Twenty-four hours make one day,
  Seven days will make one week;"
And while we all at marbles play,
  Or run at cunning "hide-and-seek,"
Or in the garden gather flowers,
  We'll tell the time that makes the hours.

In every month the weeks are four,
And twelve whole months will make a year.
Now I must say it o'er and o'er,
Or else it never will be clear;
So once again I will begin it, —
"Sixty seconds make a minute."— *Selected.*

RECITATION.

It was a noble Roman
In Rome's imperial day,
Who heard a coward croaker
Before the castle say:
"They 're safe in such a fortress;
There is no way to shake it!"
"On — on," exclaimed the hero,
"*I'll find a way, or make it!*"

Is Fame your aspiration?
Her path is steep and high;
In vain he seeks her temple,
Content to gaze and sigh:
The shining throne is waiting,
But he alone can take it
Who says, with Roman firmness,
"*I'll find a way, or make it!*" — *Saxe.*

MEMORY GEMS.

An idler is a watch that wants both hands,
As useless when it goes as when it stands.

He who ruleth well his heart
And keeps his temper down,
Acts a better, wiser part
Than he who takes a town.

Learning is better than houses, lands, or money.

This you all must learn at length.
Lies are weak, and truth is strength;
And as much as you deceive,
Just so much you lose of strength. — *Alice Cary.*

Laziness grows on people; it begins in cobwebs, and ends in iron chains. — *Hale.*

Keep watch on your words, my darling,
For words are wonderful things:
They are sweet like the bees' fresh honey,
Like the bees they have terrible stings.

We cannot always oblige, but we can always speak obligingly.

A Good deed is never lost: he who sows courtesy, reaps friendship; and he who plants kindness, gathers love. — *Basil.*

SEMI-ANNUAL EXAMINATION QUESTIONS.

Given in one of the Schools of Boston.

GEOGRAPHY. — SECOND YEAR IN GRAMMAR DEPARTMENT.

1. In what county do you live?
2. Name two large rivers in your state.
3. Tell about the climate of Europe.
4. Name three important productions of Asia.
5. Name and place four peninsulas in Europe.
6. Where are the noted mountains, and what are their names in Europe.
7. Give some facts about the climate of North America.
8. Where in North America is sugar grown? Where in North America is wheat grown? Where in North America is cotton grown?
9. Write about an imaginary journey, or some minerals.
10. Write your teacher a letter from Asia.

LANGUAGE. — SECOND YEAR IN GRAMMAR DEPARTMENT.

1. Write these sentences from dictation: —

a. There are twenty-four scholars in my division. *b.* Harry's father was watching him. *c.* Uncle Robert has gone to Europe. *d.* Alice is reading "Little Women." *e.* "What 's your name?" she asked.

2. Make sentences out of these words: A bonnet; a thunder-shower; taller; burning.

3. Write the plural form of these sentences: —

We have one loaf. A chimney is in sight. A butterfly has a short life.

4. Write the appropriate abbreviations for afternoon; avenue; county; creditor; Doctor of Medicine.

5. Fill out the blanks, using the correct forms of lie and lay; sit and set:

The soldiers ——— down at night.
The men are ——— a new walk.
The hen is ——— on twelve eggs.
He ——— out two trees yesterday.

GEOGRAPHY. — FOURTH YEAR IN GRAMMAR DEPARTMENT.

1. Write about the Connecticut River. The Mississippi River.
2. What is the largest city in the South? In the West? On the Pacific Coast? On the Atlantic Coast?
3. What is the climate of Mexico?
4. What have you learned about the motions of the earth?
5. Write your teacher a letter from California.
6. Give the seven most important countries of Europe and their capitals.
7. Write ten lines about one of the two largest cities in Europe.
8. What are four important productions of Brazil?
9. Compare the climate of South America and Europe. Compare the people in Brazil with those in Greenland.
10. Draw a map of South America from memory.

LANGUAGE.—FOURTH YEAR IN GRAMMAR DEPARTMENT.

1. Put a or an before these words: House; angel; carpet; young man; wagon.

2. Write the plural of: valley; lady; man's; zero; boy's.

3. Change to prose the first stanza of some poem in your reader.

4. Name any five parts of speech in the following sentence: James and I ran rapidly down the steep hill.

5. Use the words in each group to make an inquiry:—
   (*a.*) Skate, go, me, Wednesday, will, with, you, to, next.
   (*b.*) The, December, deep, are, snows, in.

6. Decline we, man, you, and it.

7. Analyze: The man's property was acquired by industry.

8. Reproduce the story read by your teacher, or one you remember.

9. Write three statements about your school; then unite the three into one sentence.

10. Write a letter to your teacher, imagining you are in some distant country or city.

HISTORY.—FOURTH YEAR IN GRAMMAR DEPARTMENT.

1. Give the names of three English discoverers, and write about one of them, with date.

2. Describe the settlement of one of the following three states: Virginia, New York, Connecticut, with two dates.

3. Write the characteristics of the Indians.

4. Describe the discovery of the Hudson River, with date.

5. What two colonies have exerted the most influence on this country, and why?

6. Draw a map showing territory acquired from Mexico, or draw a map showing relations between Taylor's Campaign and Scott's, in Mexico.

7. What were the results of the French and Indian War; and of the Revolutionary War?

8. Where is the "Cradle of Liberty"?

9. What did the following persons do for their country? 1. Samuel Adams. 2. General Wayne. 3. General Warren. 4. General Greene. 5. General Arnold.

10. What is the object of studying history?

ARITHMETIC.—FIRST YEAR IN GRAMMAR DEPARTMENT.

1. Add: 4689, 3203, 9354, 2107, 8436, 592 and 73.

2. Thomas spent 789 cents out of 1200 his mother gave him. How many remained?

3. A man deposited in a bank $429.21, Checks $217.12, $34.98, $47.63. Find amount.

4. Add one million; three hundred thousand, four hundred two; two thousand, three hundred, forty-six.

5. Find the sum of all the numbers from 5 to 17 inclusive.

6. I bought a cow for $37, and a horse for $165, and paid $124 down. How much have I yet to pay?

7. A farmer sold 203 pounds of butter at 23c. per pound, and 114 dozen eggs at 25c. per dozen; how much did he get for the sale?

8. Add seventy-five hundredths; eight, and sixty-seven hundredths; seven, and three hundred fifty-five thousandths.

9. In an orchard there are 9 rows and 7227 trees; how many trees in each row?

10. If one barrel of apples is worth $3.78, how much are 683 barrels worth?

Examination of the Primary Schools of Boston for Promotion, Jan. 1889.

DICTATION EXERCISE. — FOR SPELLING AND FOR WRITING, INCLUDING PUNCTUATION AND CAPITALS.

FIRST CLASS.

DIRECTION. — Read through the exercise once to the pupils, and then dictate it slowly:

THE SPELLING MATCH.

One Friday afternoon Miss Porter let her scholars have a spelling match. George Brown and Mary Rice chose sides. There were twenty-two children on each side. All of George's side missed. Four of Mary's side did not miss. So her side beat. Would you like to know the words they spelled? Some of the words were *building*, *kitchen*, *eyes*, *yellow*, *money*, *thumb*, *pencil*, *knife*, *tongue*, and *window*.

ORAL AND SIGHT ARITHMETIC.

FIRST CLASS.

ORAL ARITHMETIC.

DIRECTIONS. — Give out orally one, and only one, of the questions in 1, 2, 3, 4, and 5. Variations of questions are given in parentheses. Allow a reasonable time for finding answers to these. Give out *all* the questions in 6, 7, 8, 9, and 10; and require prompt answers to them. Answers to all the questions are to be written on paper.

1. How many cents did Henry pay for 7 (or 8, or 9) oranges, at 4 cents apiece?

2. Julia made 20 loaves of bread and sold 7 (or 6, or 5) of them. How many loaves had she left?

3. Mary gives her hens 42 (or 36, or 48) quarts of corn in 6 weeks. How many quarts of corn does she give them in 1 week?

4. John went to school 10 times each week. How many times did he go to school in 10 (or 11, or 12) weeks?

5. My father gave me a half-dollar, a ten-cent piece, and a five-cent piece. How much money in all did he give me?

---

6. How many pints of milk in 2 quarts? in 6 quarts? in 10 quarts? in 12 quarts?

7. How many quarts of milk in 6 pints? in 10 pints? in 18 pints? in 40 pints?

8. How many boys are 3 times 9 boys? 5 times 6 boys? 7 times 8 boys? 9 times 7 boys?

9. How many dollars are ⅓ of $27? ⅙ of $30? ⅐ of $56? ⅑ of $63?

10. How many more girls are 5 girls than 3 girls? 50 girls than 30 girls? 14 girls than 9 girls? 24 girls than 9 girls?

SIGHT ARITHMETIC.

DIRECTIONS.—Write on the blackboard one question at a time, and then erase it. Require that every question in 1, 2, 3, 4, and 5, be answered promptly. Give out one, and only one, of the questions in 6, 7, 8, 9, and 10. Variations of these questions are given in parentheses. Before erasing these questions, give a reasonable time for answering them.

1. Add $\left\{\begin{array}{r}\$6\\ \$3\\ \hline\end{array}\right. \quad \begin{array}{r}\$63\\ \$36\\ \hline\end{array} \quad \begin{array}{r}\$8\\ \$7\\ \hline\end{array} \quad \begin{array}{r}\$80\\ \$70\\ \hline\end{array}$

2. Subtract $\left\{\begin{array}{r}\$9\\ \$6\\ \hline\end{array}\right. \quad \begin{array}{r}\$99\\ \$66\\ \hline\end{array} \quad \begin{array}{r}\$18\\ \$9\\ \hline\end{array} \quad \begin{array}{r}\$180\\ \$90\\ \hline\end{array}$

3. Multiply $\left\{\begin{array}{r}\$5\\ 9\\ \hline\end{array}\right. \quad \begin{array}{r}\$6\\ 8\\ \hline\end{array} \quad \begin{array}{r}\$7\\ 7\\ \hline\end{array} \quad \begin{array}{r}\$8\\ 5\\ \hline\end{array}$

4. $9) $18 ($9) $180 ($8) $72 ($9) $72 (

5. ⅛ of $72 = .   ⅜ of $72 = .   ⅑ of $72 = .   ⅝ of $72 = .

6. Add $\begin{array}{c}\text{Pens.}\\ \left\{\begin{array}{r}46\\ 48\\ \hline\end{array}\right.\end{array} \left(\text{or} \begin{array}{c}\text{Pencils.}\\ \left\{\begin{array}{r}45\\ 47\\ \hline\end{array}\right.\end{array} \text{or} \begin{array}{c}\text{Letters.}\\ \left\{\begin{array}{r}48\\ 43\\ \hline\end{array}\right.\end{array}\right)$

7. Subtract $\begin{array}{c}\text{Knives.}\\ \left\{\begin{array}{r}73\\ 48\\ \hline\end{array}\right.\end{array} \left(\text{or} \begin{array}{c}\text{Spoons.}\\ \left\{\begin{array}{r}74\\ 47\\ \hline\end{array}\right.\end{array} \text{or} \begin{array}{c}\text{Mugs.}\\ \left\{\begin{array}{r}75\\ 46\\ \hline\end{array}\right.\end{array}\right)$

8. Multiply $\begin{array}{c}\text{Books.}\\ \left\{\begin{array}{r}16\\ 5\\ \hline\end{array}\right.\end{array} \left(\text{or} \begin{array}{c}\text{Slates.}\\ \left\{\begin{array}{r}18\\ 5\\ \hline\end{array}\right.\end{array} \text{or} \begin{array}{c}\text{Desks.}\\ \left\{\begin{array}{r}17\\ 5\\ \hline\end{array}\right.\end{array}\right)$

Gallons.   Quarts.   Pints.

9. 6) 480 (or 7) 490 (or 8) 480 (

10. Find how many horses are

$$\left.\begin{array}{r}8\\6\\8\\5\\6\\5\\7\\4\\7\\9\end{array}\right\} \quad \text{or} \quad \left\{\begin{array}{l}9\\8\\9\\8\\7\\6\\7\\6\\5\\6\end{array}\right. \quad \text{or} \quad \left\{\begin{array}{l}7\\8\\7\\9\\8\\6\\5\\6\\3\\8\end{array}\right.$$

__ horses.   __ horses.   __ horses.

BOOK NOTICES.

EDUCATION IN THE UNITED STATES. ITS HISTORY FROM THE EARLIEST SETTLEMENTS. By Richard G. Boone, A. M., Professor of Pedagogy in Indiana University. Pp. 402. Cloth. New York: D. Appleton & Co. Price, $1.50. International Education Series.

This volume of a valuable series will be found, by the student of educational matters and methods, of great worth. While necessarily brief and incomplete, there are given so many facts and so much data that the scholar will be greatly assisted in his work of familiarizing himself with the development of the "American System of Education." We have heretofore really had no history of education in America. The author has treated his subject well, and the work will prove of great value.

THE COMING SCHOOL. By Ellen E. Kenyon. A sequel to "The Young Idea," by Caroline B. Le Row. Pp. 146. Boards. New York: Cassell & Co. Price, 50 cents. For sale by W. B. Clarke & Co., Boston.

This little book will not fail to interest those who were interested in "The Young Idea," of which this is a sequel. It is evidently written by one who has much sympathy with Miss Le Row in her trials with all that was bad in the system she saw used all about her in the schoolrooms. This writer has endeavored to supplement the "exposures" made by Miss Le Row with a presentation of the faint glimmering of light which she sees entering where there is a break in what she calls formalism in teaching. Miss Kenyon is a good writer, a careful thinker, and has much insight into educational problems.

LANGUAGE EXERCISES. By Robert C. Metcalf, Supervisor of Schools, Boston, Mass., and Orville T. Bright, Superintendent of Schools, Englewood, Ill. Pp. 230. Cloth. New York, Chicago, and Boston: Ivison, Blakeman & Co. Introduction price, 42 cents.

The modern method of introducing "Language Lessons," and "Language Exercises" into our common schools in place of English grammar, or what is very much better in connection with grammar, will in this book receive valuable assistance, and if the reputation of the authors is not therein belied the book will be found one of very much worth. There is a very wide range of exercises, including those in letters and their sounds, words and word forms, sentences, pronunciation, dictation, information, and conversation, in all, some twenty divisions of this kind. If the children become thoroughly familiar with the forms and construction of sentences given here, they will be assisted materially in future use of the "King's English."

SIR THOMAS WYATT AND HIS POEMS. Presented to the Kaiser Wilhelm's University at Strassburg, for the acquisition of the degree of Doctor of Philosophy. By William Edward Simonds, Instructor in German, Cornell University. Pp. 156. Cloth. Boston: D. C. Heath & Co. Price by mail, 95 cents.

Part 1st of this book contains a brief biography of Sir Thomas Wyatt, and shows him to have been, as was his father, Sir Henry, a prominent and influential man during the early part of the sixteenth century.

Part 2d is given to a careful study and comparison of his poems, and aims to give an exact interpretation of them.

Students of early English will find this book of service as giving them a new insight into one of the prominent writers of that time.

MEMORY TRAINING. A complete and practical system for developing and confirming the memory. Adapted to all kinds of subjects. By William L. Evans, M. A. (Glasg.). Pp. 275. New York: A. S. Barnes & Co. Cloth. Price, 1.25.

In this volume the author treats the subject of training and perfecting the memory from two standpoints, viz.: from the side of the student of physiology, and as a psychologist. While he has given one part of the book to the discussion of the subject from the psychological view and the latter portion from the physiological side, both views have been considered throughout. It will be found useful by all teachers.

THE MAN WITHOUT A COUNTRY. By Edward Everett Hale. Pp. 53. Boston: J. Stillman Smith & Co. Cloth. Price, 50 cents. For sale also at this office.

This little book, written as it was during the war, and intended to assist in raising the standard of love of country and true patriotism, is not only not out of date at this time, but is always a timely topic, and one which the youth of this country should study carefully. Its elegant English and descriptive power, added to its patriotic character, make it eminently a fit book for supplementary reading in grammar and high schools.

PHYSICAL TRAINING, OR THE CARE OF THE BODY. By E. B. Warman, A. M. Illustrated. Pp. 190. Chicago and New York: A. G. Spaulding & Brothers. Price: Cloth, $1.00; Paper, 25 cents.

The author has given in this book an admirable treatise upon the care of the entire body. He considers Physical Training in Schools, General Rules of Health, Fresh Air, Correct Breathing, Bathing, Catarrh, The Evils of Tobacco and Drink, and other important topics. The pages following number 68 are full of excellent systems of exercise without apparatus, with one and two dumb bells, with one and two Indian clubs, with wands, etc. The book will prove of much value to teachers of high schools, grammar schools, and academies.

OUTLINES OF BIBLE STUDY. A four-years' course for Schools and Colleges. By G. M. Steele, D. D., Principal of Wesleyan Academy, Wilbraham, Mass. Pp. 183. Cloth. Boston and New York: Leach, Shewell & Sanborn.

The increased interest in the study of the Divine Word during the last twenty years has been and is, one of the most hopeful signs of the times. This book will prove of much value and service to classes and their teachers, and to individuals as well, who are about to take up a course of systematic study of the Holy Scriptures.

The work is divided into four series, covering four years of study. The first being that portion comprised in the time previous to the death of Solomon. The next from that time through the history of the Jews, with outlines of the poetic and prophetic books. The third comprises the life of Christ, as found in the Gospels, and the last discusses or outlines the discussion of the growth of Christianity, as shown in the Epistles and Book of Revelation. Bible students will find much to aid them in this book.

Common School Education.

DEVOTED TO THE ART OF INSTRUCTION.

Vol. III. OCTOBER, 1889. No. 8.

READ FEWER BOOKS.

BY BERMUDA BLOUNT.

ONE who has to do with the education of young people, and who is at all familiar with the current literature of the day, must be interested in the results of today's education as compared with that of the past.

Whether every boy and girl, if turned loose in a miscellaneous library, would, like " Bridget of Elia," browse only upon the best and avoid all the poison, is a question. An intelligent guardian would probably dislike to trust them.

The realistic tendency of modern fiction is demoralizing and tends to deaden that immortal part of us, the imagination. Writers of this school, Tolstoi, Daudet, Zola, Dastoiersky, and even Henry James and Mr. Howells are working immense harm to the literature of the age, and are setting in motion a wave of influence that can have only disastrous results. It is the poetry, the romance, the illusions, if you will, that have kept human life sweet and true through all the ages. They have given us glimpses of heaven which cold realism only laughs at in scorn.

One brave defender of the grand old masters of literature, who deserves the thanks of all thinking people, is Maurice Thompson. With his keen and fearless pen he has pierced the false fabric woven by realists through and through, so that all who will may see its emptiness. But even aside from the character of modern books, there are too many of them, and people, young and old, read too much.

Hamerton's " Intellectual Life " should be put into the hands of every young person, and his theory in regard to reading should be practised. The gifted men and women of today, who are prominent in all positions of life, read a far less number of books than do their sons and daughters.

Look back over the history of the past. Did Shakespeare have many books to read? Did Spenser, Chaucer, Homer, Plutarch, read a hundred novels every year? Take the signers of the Declaration of Independence in our own country. What were they in a literary way? Men who were fed mentally upon the Bible, Pilgrim's Progress, and Josephus. Men descended from a hardy Christian race, whose one book for study and recreation had contained the Divine Revelation and the Psalms of David. Men who learned the shorter catechism, most of them, when they were all but babies. And could there be a set of men collected the wide world over, of finer dignity, of nobler sense, of truer heart?

One of our best statesmen said recently in a lecture, that when he was a boy there were but three books in the house, and he learned them all by heart. They were the Bible, a hymn-book, and McGuffey's Sixth Reader. But it was a liberal education for him.

Mental dissipation is one of the crying evils of the day. The newspapers are too large, cheap novels are too plenty, and young people are urged to read by older persons who have no discrimination and do not know that a page well digested is worth twenty books read for mere amusement. Boys and girls, with fresh unspoiled minds need no recreation mentally. They should be laying up treasures for future use. They should be forming bone and sinew for the wear and tear of more mature years.

And if, even by harsh measures, they can be induced to build well, how grateful they will be when each one can say, "My mynde to me a kingdom is."

NOTES FROM A SUMMER SCHOOL.

BY ELLEN E. KENYON.

IF there was one thing more than another to be always remembered as characterizing the twelfth annual session of the Martha's Vineyard Summer Institute, it was the wonderful unanimity of educational principle pervading the teachings of its leaders.

" Teaching," said Professor Greenough, in the psychology class, " is occasioning mental activity that results in knowledge, in method and in power " ; and, as though with one consent the other leading teachers had adopted this definition, they proceeded to make their teaching true to it — except that, as a rule, they reversed the order of results, placing power first and facts last. "Work from within" seemed to be the motto of the school.

"Fill your horizon with your thought!" exclaimed Doctor Emerson to his class of readers, and when he wanted them to read about a tidal wave, he actually tried to make them believe one was coming.

Defending the power of two objectionable characters in the renaissance of education, Mr. MacAlister said: "If ever again convention falls upon us and the spirit ceases to act, another great reaction, with such destructives as Rabelais and Rousseau, will be needed to break our chains."

"It takes a great deal of soul kindling to light the flame of genius," said Professor Dorchester, in his English Literature class, the inference being that *some* soul kindling is necessary to any mental action.

"The best way of learning history is to read biography," said Doctor Mowry, and kindled the souls of his pupils by bringing the great heroes of history into their presence.

"The soul and mind must always be the creator and executor in musical performance," says Prof. G. H. Howard, in charge of the musical department. Professor Howard teaches music, even to young children, through musical conception.

Prof. F. H. Bailey, and Mr. James Jenkins, teach their respective subjects, astronomy and geometry, through the zest of original research and demonstration on the part of their pupils.

In Miss Drury's microscopy room, pupils were found making their own slides for the study of subjects of their own selection: and everywhere throughout the Academic Departments, nature's principles were obeyed and nature's laws followed. Need anything be said of the Methods Department, whose work could be scarcely other than modern?

ARTISTIC MODELLING.

BY MAY MACKINTOSH.

IN the former papers on the use of clay (in the February, March, April, and May numbers of the present year), we have considered it solely from its non-artistic standpoint, — only as a material which may be patted, rolled, or cut into shape without any reference to artistic effect, or much skill on the part of the little worker.

But after the little fingers have lost their first clumsiness, through the work done in the kindergarten and earlier primary classes, they have become ready to perceive and to reproduce more delicate distinctions of form. And when this time of readiness comes, the earlier work should be laid aside, and the children be allowed to work out their own conceptions of simple natural objects.

Not, however, as in the kindergarten. *There the basis of classification is the likeness borne by all natural objects to a few typical forms; and it is the type-form which is emphasized to the child's mind by being produced first*, all peculiarities of the special object being added afterwards.

In the advanced work, on the contrary, *each child receives an individual form to examine and reproduce, with special reference to those characteristics which make up its individuality.* There is now to be no patching up of the typical form into a special one; but the child, after deciding on the position of the greatest masses in his model, is to mass his clay as rapidly as possible, into a rough resemblance to them. Then, passing his hand over the principal slopes of the models, — ("Try to see with your fingers," I tell my children) — he fixes his attention on his sensations of feeling, and when they become sufficiently distinct and definite, he attempts to exactly reproduce them, — *by adding clay*, — *never by pinching up the clay already placed.*

This added clay is to be touched as little as possible; the touch which presses it on the child's copy of the model should at the same time give the required curve; and all artists agree that it is a mistake to try to give too fine a finish to the work before the child is skilful in quickly grasping the essentials of form. For, when he has attained this skill, he can generally do the greater part of any necessary "finishing" during the progression of the work, and what retouching still remains to be done assumes a proper and secondary place in his estimation.

At first, it is probable that the copy will be slightly larger than the original, since the child makes no allowance for probable additions of clay in roughing out his model; but this is a good fault, since every defect becomes exaggerated, and hence is more easily corrected.

And now begins a more systematic training in self-criticism of work. By the first five minutes each pupil should have finished the preliminary blocking out. Then comes the teacher, and asks each child to say what he thinks of his success or failure in catching the salient characteristics of the model. If the child fails to criticise correctly, the teacher aids him; but there is no department of art in which less help is needed.

There are, indeed, a few *mannerisms* to be corrected, as a rule; but on the whole, the child teaches himself from the model.

At this stage too, it is possible to draw and model the same objects. In the kindergarten and earlier primary, we have not found this practical, both from the child's want of skill with the pencil and on account of the earlier objects used, to a great extent at least.

We must always remember that while modelling gives as far as possible the representation of the *whole* object, drawing presents only a one-sided and incomplete picture, which necessarily differs from what is in the child's mind. How often do we see the drawing of the clapper visible the whole length of the bell, because the child knows it to be there! Or the whole human head drawn, and then the hat drawn *over* the first lines, for the same reason. But by the time the children are ready to begin the artistic work, they are also ready to represent the *appearance* of the objects they model by drawing.

Opinions are divided as to the priority of drawing or (artistic) modelling. Some say the one, and some the other should come first. But that may be easily decided by each teacher for him or herself, by experiments in both directions; i. e., first model, then draw one object; and then, first draw, afterwards model another.

The age of beginning this work will vary with different classes of children, according to the previous experiences in school; and the varying refinements of the homes. I have found children of from seven to eight years of age quite ready in my own school; and probably other circumstances would make even an earlier commencement entirely suitable and possible.

Now as to the question of models. Are real objects or plaster-casts most desirable?

Well, real objects are to be preferred when sufficiently solid; but for the use of children, natural leaves are unsatisfactory, because they wither so soon, and also because they give way under the studying touch of the child, instead of preserving their *contour*. Mr. George Tobin, artist of the Workingmen's School, New York City, has mounted dried leaves for the use of his children, which admirably answer the purpose; and teachers living in the country can make rough temporary models by supporting the raised portions of any green leaf with clay, so that, even if it withers before the completion of the lesson, the curves will remain approximately natural.

Still, I must confess that a good plaster-cast is a very nice model to work from, since its white surface emphasizes any shade, and consequently it is easier to catch the exact nature of its relief.

It will be seen that I have not attempted to speak of the higher developments of art. All that I have written of is possible to children under nine years of age. Were I to go further, I should adopt the plan given (for drawing) in the "Graphic System of Object Drawing," published by Lovell & Co., and give extra lessons in the literature of art, ancient and modern, thus connecting in the very best way with the other school branches, and lending an additional interest to each.

PRACTICAL BOTANY.[1]

BY PROF. W. WHITMAN BAILEY, B. P., BROWN UNIVERSITY.

VIII.

THE FLOWER.

THE flower, as the showiest part of the plant, is the most apt to attract attention. It is the love of flowers that leads most persons to the study of Botany. Indeed, for very young classes, it may do to begin work with the flower, and work backwards, as it were, to the study of leaves, stems, and roots. Such matters of plan and detail must be left largely to the master, who, on his part, must make a study of the capabilities and best interests of his particular class.

We saw in the last chapter that flowers had their origin in the same place as buds or branches. This position of the flower helps to determine its character. It is considered as a sort of branch developed for the particular purpose of forming seeds, i. e., of propagating the species. But it is not from position alone, that we conclude that a flower is a changed or " metamorphosed " branch. We detect in some flowers a gradation of changes, from the true leaves through the bracts, to the floral parts. Moreover, it is not uncommon to find flowers, like those of roses or cherries, reverting to a leafy condition. The central organs of a flower may be broken up and a leafy stem usurp their place. The common doubling of roses and carnations, is, indeed, but the exhibition of this inherent tendency in the flower to escape from its special duty. It was from the study of double flowers, cases of reversion and the like, that the poet Goethe was led to construct his theory of " metamorphosis." As this is now understood, it is not meant that any particular flower has ever existed as a leafy branch, but that a shoot which would under usual conditions so develop, does, for particular ends, assume the floral character. It is of the branch nature. It follows, that the organs borne on this branch, or series of condensed internodes, are of the leaf nature. Let us now consider these.

A flower that possesses all its required parts, consists of four circles or whorls: —

Calyx, composed of parts called *sepals*.
Corolla, composed of parts called *petals*.

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[1] Copyright, 1888, by Eastern Educational Bureau.

Andrœcium, comprising one or more stamens.

Gynœcium, comprising one or more pistils.

These parts may not all be present in any one flower. In the absence of any, the flower is incomplete. Thus the corolla, as in *Anemone* or *Caltha*, may be omitted, when the flower is *apetalous*. Both calyx and corolla may be omitted, and the flower is then *achlamydeous*, meaning without a cloak. Calyx and corolla together form the floral envelopes. If one of the two only is present, it is regarded as the calyx, i. e., the outer floral envelope.

Flowers become "imperfect" from the absence of either or both of the series of "essential organs," that is, of stamens or pistils. Such omissions are common. Thus, willows have all the staminate flowers on one tree, and all the pistillate on another. Indian corn and castor-oil bean (*Ricinus*), have the two kinds of flowers separated on the same plant. Neutral flowers are those, like the outer ones of certain viburnums, or all of those of the snow-ball bush (*Viburnum opulus*) that possess neither stamens nor pistils. A "regular" flower has all of the members of the different circles of the same, or nearly the same size and shape. A "symmetrical" flower exhibits throughout a particular numerical plan, as in a lily, when there are six parts to the floral envelopes, six stamens, and pistil on the plan of three. A flower which is "complete," "perfect," "regular," and "symmetrical," and which, at the same time showed an alternative and distinctness of parts, with no unusual outgrowths of the flower itself, or the receptacle, would be regarded as a type flower. Deviations occur in all directions, from union of like parts (coalescence); union of unlike parts (adnation); irregularity, asymmetry, etc. A typical condition is the exception.

Sometimes it is convenient in speaking of the floral envelopes, when, as in a tulip or lily, they are of the same color and shape, to call them collectively the Perianth. This is the restricted sense of the term. It is proper always, however, to speak of the perianth, but in most cases one treats the calyx and corolla separately.

Much that has been here said is for the teacher. It is our habit to begin the study of the flower by a series of questions, as follows: —

1. How many different circles of similar parts do you find?
2. How many members of each circle?
3. How do these parts stand in reference to each other?
4. Draw one of each.

It should be added that the "floral envelopes" are protective to the essential organs. The coloration of calyx, or corolla, or both, or even of the bracts, is for the attraction of insects. For what purpose these creatures are enticed to the flowers, we shall see at another time.

PRACTICAL METHODS OF TEACHING SPELLING.[1]

(*Second Series.*)

VII.

BY ANNA B. BADLAM.

Principal Training School, Lewiston, Maine.

THE STUDY OF MAXIMS FOR LANGUAGE AND SPELLING.

Lesson 104. Moral Lesson.

1.

“*Work while you work;*
Play while you play;
That is the way
To be happy and gay.”

GENERAL DIRECTIONS FOR TEACHERS.

1. Question the children to see if they comprehend the meaning of the maxim.
2. Lead them to talk of different kinds of play; of different kinds of work.
3. Draw the contrast between play or work done in a willing or an unwilling spirit.
4. Impress upon the minds of the children that there is a time for work, and a time for play.
5. Recall to the children instances when they have enjoyed the thought of work well done, and the pleasure they have taken in the play that followed.

2.

Stems to be built upon in oral sentences.

work *you* *play* *way* *happy* *gay*

N. B.—Board-work for the teacher. The use of Suffixes.

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[1] Copyright, 1888, by Anna B. Badlam.

A.

work	*you*	*play*	*way*	*happy**	*gay*
+	+	+	+	+	+
s	*r*	*s*	*s*	*er*	*ly*
ing	*rs*	*ing*		*est*	*er*
ed		*ed*		*ly*	*est*
er		*er*		*ness*	
ers		*ers*			
		ful			

* Change of letter.

B.

The use of Prefixes.

un + *happy*
happier
happiest
happily
happiness

N. B. — Lead the children to frame oral sentences by suggesting the new word formed from the stem. Question the children as to the manner in which the new word was formed from the stem.

Lesson 105. Elliptical Sentences. The stem *work*.

GENERAL DIRECTIONS.

N. B. — 1. Have the elliptical sentences read from the board, and allow the children to insert the proper word to be supplied.

2. Write each word in its place as it is supplied by the children, in order, that they may see and comprehend how they are to do the slate-work in subsequent lessons. Erase all words that have been inserted, and leave the work like the model when requiring slate-work to be filled in.

Model of board-work to be used, first, for oral, second, for slate-work.

work + *s*, *er.* *ers*, *ed*, *ing.*
This boy likes to - - - - .
He is a good work - - .
He and his brother are both good work - - - .
They have work - - all day.
They have been work - - - six hours.

Lesson 106. Elliptical Sentences. The stem *you.*

N. B. — Follow the directions in Lesson 105, and require the children to fill all blanks, either in oral or written work. Question the children till they can readily tell how the words were formed from the stem.

Model of Board-work.

you + r, rs.

Does this book belong to - - - ?
Is this you - book?
Does it look like you - - ?

Lesson 107. Elliptical Sentences. The stem *play.*

N. B. — Follow the general directions of Lessons 105 and 106.

Model of Board-work.

play + s, er, ers, ing, ed, ful.
This boy likes to - - - - ball.
He play - quite well.
He would like to be a fine play - - .
His two brothers are fine play - - - .
They enjoy play - - - ball.
Some days they have play - - as many as five games.
Rover is their dog. He is quite play - - - .

Lesson 108. Elliptical Sentences. The stem *way.*

N. B. — Follow the general directions of Lessons 105 and 106.

Model of Board-work.

way + s.
Which is the - - - to town?
There are two way -; one by the road, and one by the field.

BUSY WORK FOR THE CHILDREN.

Model of Board-work from which the children are to get the material for building.

work + s, er, ers, ing, ed.
play + s, er, ers, ing, ed, ful.
you + r, rs.
way + s.

Model of slate-work when completed by the children.

work	*play*	*you*	*way*
works	*plays*	*your*	*ways*
worker	*player*	*yours*	
workers	*players*		
working	*playing*		
worked	*played*		
	playful		

Lesson 109. Elliptical Sentences. The stem *happy.*

Model of Board-work.

happy + er, est, ly, ness*

* Change of letter. Change *y* to *i*.

I am - - - - - when I have done right.
I am happi - - when I have been busy, than when I have been idle.
Busy children are always the happi - - - in school.
Happi - - - - is sure to come to busy people.

Lesson 110. Elliptical Sentences. The stem *happy* with its changes combined with the prefix *un*.

Model of Board-lesson.

un + happy happily happiness

Busy children are seldom - - happy.
Rude children play - - happily together.
Kind words bring happiness, but cross words - - happiness.
Poor Helen never passed an - - happier day.
She was the - - happiest child in the school; for she had done wrong.

Lesson 111. Elliptical Sentences. The stem *gay*.

Model of Board-work.

gay + ly, er, est.

The bird was happy and - - - - .
The birds sing gay - - this morning.
There was never a gay - - song heard in the woods than the birds sang.
The birds were singing their gay - - - songs after the rain was over.

BUSY WORK FOR THE CHILDREN.

Model of Board-work from which the children are to get the material for building.

happy + er, est, ly, ness.*

* Change *y* to *i* in using suffixes.

un + happy, happier, happiest, happily, happiness.*

Model of Slate-work when completed by the children.

happy	*un happy*
happier	*un happier*
happiest	*un happiest*
happily	*un happily*
happiness	*un happiness*

LANGUAGE LESSONS AND EXERCISES.[1]

(*Second Series.*)

VIII.

BY L. W. RUSSELL, A. M.

THE DASH.

ALTHOUGH the dash is usually classed among the "secondary" points in punctuation, it is, when properly used, a very helpful one. But when employed at random, as it sometimes is by careless writers, or when it is made to fill doubtful places, by those not well versed in punctuation, it becomes an impediment to visible expression. Some writers cloud its more significant uses by the frequency with which they use it in their composition. In some cases critical judgment should be exercised to decide upon the propriety of the use or rejection of this mark; but several of its most significant uses may be quite definitely set forth and clearly illustrated. Pupils will quite readily comprehend these, but observation and practice upon them should extend over some years of school life to secure correct and ready use of the mark in composition. "*Little by little*" is language practically learned, and this is especially true in regard to the use of the marks used in punctuation.

The dash should be used, —

1. Where there is a sudden interruption in the flow of a sentence; as, —

"Oh Peace! oh come with me and dwell —
But stop, for there's the bell."
"Oh Peace! thou art the best of earthly goods —
The five Miss Woods."
"Oh Peace! thou art the Goddess I adore —
There come some more!"

"If you will give me your attention I will show you" — "But we may not wish to see."

"His children — but here my heart began to bleed, and I was forced to go on with another part of the portrait."

2. To show hesitation, — either for effect, or from doubt, fear, etc., —

There are several ways of humbling a proud man; but the best one is — to take no notice of him.

"Arm! arm! it is — it is — the cannon's opening roar."

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[1] Copyright, 1888, by Eastern Educational Bureau.

Well, — I — don't — know.

Men will wrangle for religion, write for it, fight for it, anything but — live for it.

Doctor Franklin says that two things are sure to come to all men, — death and — taxes.

" Why not accept the Unites States Senatorship for yourself, Judge?" — "Oh, well — now — I — well — you know — ah — I — I am — yes — totally unprepared for that sort of thing, you know; but say — I am in the hands of my friends!"

3. Where there is a sudden or unexpected turn in the thought or sentiment.

AN EPITAPH.

Little Johnnie Day lies here,
He neither cries nor frets;
He just had reached his thirteenth year —
Cigarettes.

— *Boston Courier.*

He never troubles his neighbors — when in jail.

With one hand he seized a knife and with the other, — ah, cousin, with the other — a ham.

He talked, he reasoned, he shouted, — the storm burst.

This idol of thy parents — Hang the boy! — there goes my ink.

4. To denote a continuance of the same line of thought in parts which refer to a leading statement or direction, used sometimes with, sometimes without, other punctuation marks, thus: —

Write a sketch about a deserted homestead in the country; — its present appearance; — the tumbling walls; — decaying timbers; — the hearth-stone fallen into the cellar; — the prostrate stairs, and the feet which trod upon them; the choked garden and the torn shrubbery in it; — the great elm, still beautiful and grand; — the roadway, now overgrown with grass and trees; — the people who once lived there; — the happy days; — the marriages, the breaking up, the desertion; — the work of nature in repairing the effects of abandonment, giving "beauty for ashes," life for decay.

Take the case of a common English landscape; — green meadows with grazing and ruminating cattle — canals or navigable rivers — well-fenced, well-cultivated fields — neat, clean, scattered cottages — humble, antique churches with church-yard elms and crossing hedge-rows — all seen under bright skies and good weather. — *Lord Jeffrey's Review of Alison on Taste.*

5. Before a repeated word, phrase, " echo," or other forms of iteration.

Come back my early days, — come back! — *Richter.*

" On a limb of an oak sat a jolly old crow,
And chattered away *with glee* — *with glee*,
As he saw the old farmer go out to sow;
And he cried 'it is is all *for me* — *for me!*' "

" The sweet south wind is merrily blowing, —
Still I am sad, for summer is going —
Summer is going — summer is gone!"

" There are persons in the world, I acknowledge it, to the honor of human kind, — there are persons in the world who feel that the possession of good dispositions is their best reward."

" I would be flint — flint — flint. Do not make me feel that I am not — do not mind me."

If I were an American as I am an Englishman, while a foreign troop was landed in my country, I never would lay down my arms — never — never — never. — *Chatham.*

6. To mark the limits of intermediate or explanatory expressions, especially when long or divided by other points.

Remark. — This is one of the most important uses of the dash. It indicates a smaller degree of separation from the leading thought than the parenthesis should do, and, generally, greater than the comma. The tendency of the present day is to substitute, in most instances, the straight line dashes for the obtrusive looking curves.

EXAMPLES.

He [Lord Byron] knew and felt the mightiness of his power — and he loved its exercise — to kindle, in a thousand bosoms, the strange fire which desolated his own. — *John G. Whittier.*

He strove to lead his readers — the vast multitude of the pure, the beautiful, and the gifted who knelt to his genius as to the manifestations of a new divinity — into that ever-darkened path, etc. — *Ibid.*

Give your impression of the man — his face, his manners, his character — from his writings.

For we all of us — that is, father, mother, brothers, sisters, uncles, aunts and cousins — took the boat together.

As an instructor, he must know all about the material in which he works, the subject or branch of a subject which he proposes to teach, must choose his tools — apparatus, illustrations, and methods — wisely, and handle them deftly, and must understand the foundation upon which he builds — in short, must be a skilled workman. — *Mrs. L. N. Knox.*

At midnight — strange and mystic hour! — the curtain was suddenly drawn aside.

Her little bird — a poor slight thing the pressure of a finger would have crushed — was stirring nimbly in its cage. — "*Death of Little Nell.*" — DICKENS.

[Read the story for fine illustrations of the use of the dash.]

7. Before an expression which sums up preceding particulars.

The collision of mind with mind; the tension of every mental fibre; the shout of joy that swells up from gladsome voices, as he stands upon the summit, with error under his feet, — *these* make men.

Intemperance in eating, late hours, stimulating drinks, careless exposures, violent passions, — *they are all* injurious to health.

Home, friends, kindred, — *all* gone!

There are, humanly speaking, three great objects of pursuit on earth, — well-being or happiness for ourselves and families; influence and control over others; and a good name with our fellow-men while we live and when we are gone. — *Everett.*

8. To lengthen the pauses indicated by other points, and for emphasizing expressions.

I shall enter into no encomium upon Massachusetts; — she needs none. There she is, — behold her and judge for yourselves. There is Concord, and Lexington and Bunker Hill, — and there they will remain forever. — *Webster.*

"Thou dost not mean — no — no — thou wouldst not have me make a trial of my skill on my child!"

"He knew me, — smiled faintly, — gasped, — and died." *Sparticus to the Gladiators.*

NOTE. — The dash is often very effectively used as a substitute for other points, to intensify expression; as, in the "*Death and Burial of Little Nell,*" by Dickens: — "You will never do that — never while I have life. I have no relative or friend but her — I never had — I never will have."

[Examine the whole story for illustrations.]

9. To separate headings from the subject matter, or leading statements from quotations or lines of particulars, usually with some other point.

NOTE. — This use is common in various school text-books, in commercial statements, etc., — which see.

Halleck has beautifully said of Burns, —

> "His was that language of the heart
> To which the answering heart would speak."

GENERAL OUTLINE. — Origin; — appearance of nature; — weather; — doings of the people; — comparison to other times; — feelings and reflections.

LEARN FOR TEACH. — *To teach* is to instruct; *to learn* to receive instruction.

DIFFER FROM OR WITH. — Worcester says, — Differ *with* a person in opinion; *from* a person in some quality.

The articles offered for sale are as follows: —

A herd of fine Jersey cows, etc.

10. To denote the omission of the middle numbers of a regular series; also, the omission of a word or part of a word not desirable to write.

See pp. 34 — 42. Consult Sect. 9 — 15.

Christ's sermon on the Mount, — Matt. V. — VII.

The session of 1888–9. — (Showing that the session includes a part of two years.)

In quoting pages the full figures should be used, — as pp. 234 — 238; not 234 — 8.

11. To separate the speeches in dialogue when not placed in successive paragraphs; also, to prevent making too many paragraphs.

Punctuate properly the following: —

Oh for home by the deep sea — Lost lost lost — Auction great sacrifice greatest chance for bargains ever offered — Jump for your life.

CROSS-EXAMINATION. — You say you know Mr. Smith. — Yes, sir. — You swear you know him? — Yes, sir. — You mean you are acquainted with him? — Yes, sir, — acquainted with him. — Then you were not quite correct when you said you *knew* Mr. Smith? — No, sir. — Ah, I thought so; you can sit down.

There are numerous variations of the uses of the dash above shown; but an attempt to formulate them would confuse rather than enlighten. A verbal memorizing of the statements given is not recommended. The facts will be best learned through the illustrations, the several statements being leaders to them.

EXERCISES.

For exercises, dictate the above, and other illustrative examples, and require pupils to punctuate them.

Also, require them to search for examples and tell the reason for the use of the dash.

LIVE up to the best that is in you; live noble lives, as you all may, in whatever condition you may find yourselves, so that your epitaph may be that of Euripides: "This monument does not make thee famous, O Euripides! but thou makest this monument famous."

— *H. W. Longfellow.*

FOUR FRIDAY AFTERNOONS ON HISTORY AND GEOGRAPHY.

BY RUFUS ALDRICH.

IV.

THE PUGET SOUND REGION.

THE older pupils in the third grammar school had formed themselves into a "Geographical Society," meeting once in two weeks at the home of one of the members. The society was composed of the members of the two higher classes of the school, with their teachers, and was under the auspices of the school. A committee of entertainment was appointed for each meeting, who took charge of the exercises for that evening.

On Monday, May 7th, Miss Tanner, the teacher, announced that the next meeting of the "Geographical Society" would be on Wednesday evening at the home of Miss Rogers on B street. There would be a lawn party from 6 o'clock to 7.45, during which simple refreshments would be served, followed by games and social intercourse until 7.45, when Miss Shaw would give them a parlor lecture on Puget Sound. Miss Tanner went on to say that Miss Shaw, one of the teachers in the town, had for the last six summers taken a western trip, and had travelled over each of the different routes in going to or coming from the Pacific coast. She had crossed the Continent by the Southern Pacific, the Santa Fé, the Oregon Short Line, the Union Pacific, the Northern Pacific, and the Canadian Pacific. She had spent a summer in California, including in her trip, all points of interest between the Yosemite and Mt. Shasta. Another summer was passed on the Northern Pacific route, stopping off at St. Paul, Minneapolis, the Falls of Minnehaha, Fargo, the great wheat farms, the Yellowstone Park, and various points of interest in Washington: as Spokane Falls, Wallula and Walla Walla, then over the switch back before the tunnel was completed, across the Cascades to Tacoma and through the Puget Sound country to British Columbia. Three times she has been to Alaska. Last summer, in addition to the Northern Pacific route, she branched off at Winnepeg and travelled a thousand miles by steamer up the Saskatchewan River. She has passed through the Puget Sound region several times, and will delight you with her account of that wonderful country.

Pay particular attention to what is said, remembering the important points, or taking notes on them, then study the subject up for yourselves and next Friday we shall expect a particularly interesting time. Be prepared for a general quiz on the subject of this vast and important section of our country.

As usual the Wednesday evening meeting of the society was a success, and, as the teacher prophesied, the pupils were wildly enthusiastic over the lecture. When Friday came, Puget Sound, timber, the new State of Washington, Tacoma, Seattle, etc., were the general subjects of conversation.

Teacher: — What territory does the Puget Sound region cover?

Carrie: — The Puget Sound country includes all that region in the western part of the new state of Washington which lies between the Columbia River and Vancouver Island, and the Cascade Mountains and the Olympian group of mountains which form the northern extremity of the coast range.

Teacher: — Alfred, will you describe the two routes from the Northern Pacific to Tacoma?

Alfred: — One way is from Portland to cross the Columbia at Kalama, thence by rail through the dense region of forest one hundred miles northward to Tacoma. The other way is to leave the Northern Pacific at Ainsworth in the south-eastern part of Washington, and go through the Yakima Valley and over the Cascade Mountains to Tacoma.

Teacher: — While Archie is telling us something about Tacoma, will Gertie please sketch on the board a map of Puget Sound, the Straits of De Fuca, Vancouver's Island, and locate the towns of Tacoma, Seattle, Port Madison, Port Townsend, Victoria, and also sketch the boundary lines of the states of Washington and Oregon, locate Portland, and the principal mountain peaks of the Cascades.

Archie: — Tacoma and Seattle are the two largest places on the Sound. Large steamers ply back and forth from Tacoma to Victoria. The population of Tacoma at the present time is about twenty-five thousand. The town contains splendid hotels, fine schoolhouses, handsome public and private buildings, good streets, and all the modern improvements.

Henry: — Seattle is a town about thirty miles north of Tacoma, and is a place of nearly equal population as Tacoma. It has an excellent system of public schools, large mercantile houses, and one of the finest harbors in the world. Within six or eight miles of the town are large coal mines which contain the best quality of coal to be found west of the Rocky Mountains. It is shipped to San Francisco and to other markets.

Teacher: — In what latitude is this region, and what is the temperature?

Susy: — The Puget Sound region extends from latitude 46 to latitude 49, our northern boundary. It is much farther north than where we live, and is about on a parallel with the northern part of Maine and the country north of that state. The temperature is very different from what it is in the same latitude on the Atlantic coast. It is much warmer in winter and not subject to such extreme heat in summer. The temperature ranges in the middle of the day in the summer months from 70 deg. to 85 deg., with cool nights. The farmers plough through every month in the year; flowers bloom all winter, and it is a delightful climate. The harbor the whole length of the Sound is very fine. There is room enough in Puget Sound to anchor all the navies of the world.

Teacher: — There is one item of interest about Seattle that no one has mentioned. What is it, Arthur?

Arthur: — Is it the great fire, of which we read so much? The fire destroyed a large part of the town, but it is being rapidly rebuilt and seems to be as prosperous as before.

Teacher: — Do you remember, Grace, what Miss Shaw told us about the advantage large ocean steamers found in this region?

Grace: — She said that there is a large fresh water lake, called Lake Washington, northeast of Seattle, which has been connected with Puget Sound by means of a canal with locks, so that the steamers can go up into the fresh water of the lake and get rid of the barnacles which do so much damage to the vessels. The fresh water kills them.

Teacher: — What should you judge was the chief thing about this country, Edward?

Edward: — It seems to me the great quantities of timber to be found here is one of the most important features of the region, and also the size and quality of the timber. Here are found long flag-staffs, masts, and the best of spars. There are immense saw-mills where untold quantities of timber are prepared for the market. Miss Shaw told of a flag-staff a hundred and twenty-five feet in length, nine inches through at the top, straight as an arrow, and five hundred years old. The mills are very much larger than any mills in the east, and they do not use the common, straight saw that we see here, but large circular saws, sometimes one placed above the other, so adjusted that one saw cuts half through an immense log, while the other saw cuts the other half at the same time without the two machines touching each other. Many of the saws are eight feet in diameter, with a carriage long enough to hold a log more than one hundred feet long.

Hattie: — I read about the log that President Hayes sawed when he was out in that country in 1879. The log was placed ready for him to run it through the machine, which he did, cutting off a great slab on one side, then, after it had been turned, cutting a slab off the second side, and so on turning and cutting until he had a stick of timber four feet square and one hundred feet long. My brother, after a little figuring said that if this immense stick of timber were sawed into half-inch boards it would box in Music Hall, Boston, and put a roof over it, while out of the four slabs lumber enough could be sawed to build an ordinary house of good size, and this was only one-third of the height of the tree.

Teacher: — Who can give the estimates with regard to the amount of timber now standing in this region, and how long it will probably last?

Henry: — It is estimated that they are getting out annually five hundred million feet of lumber, and that there is timber enough already grown around Puget Sound to make five hundred thousand million feet. At the present rate of cutting it would take one thousand years to cut off the timber now ready to be cut.

The pupils continued to give accounts of the large trees, the immense mills, the general vastness of the country, and the enterprise of the people. Among the stories told was one of an old stump, the inside of which being decayed, it had been hollowed out making a room eighteen feet by nineteen feet, which is used as a stable. One of the pupils then described a ride, of which Miss Shaw had told them, from Kalama to Tacoma in the evening by the light of a full moon. The moon shining down upon the great white peak reflected the light back across the country, making a beautiful sight. At one point below Portland can be seen five of the six everlasting snow peaks of the Cascades, viz.: Mt. Ranier of Tacoma, Mt. St. Helens, Mt. Adams, Mt. Hood and Mt. Jefferson. The other snow peak, Mt. Baker, could not be seen from that point. Then the vast importance of this whole region from a commercial point of view was spoken of. It lies midway between Japan, China, and Australia on one side, and Europe on the other. The merchandise from Eastern Asia is sent across the Pacific to Port Moody on the Canadian Pacific, or to Tacoma on the Northern Pacific, whence much of it is sent on to Liverpool.

The teacher called the attention of the pupils to the fact that it is eight hundred miles nearer to go from Boston to Yokohama through Puget Sound than through San Francisco. They discussed the great circles and the fact that these are always the shortest lines, and came to the conclusion that the nearest way from Boston to Yokohama would be through Hudson's Bay and across to the northward of Berhing Straits. The question then came up in the class as to what would probably be the three most important cities in the United States in the future, and it was decided that they would naturally be New York, Chicago, and a city somewhere on Puget Sound. The interest of the class was at its highest, but as the time was up the rest of the talk had to be deferred to another day.

THE PARENT'S VIEW OF THE TEACHER.

THE following was overheard within a few days in the cars: —

1st Parent: What kind of a teacher is Miss Smith?

2d Parent: She is a highly educated lady.

1st Parent: I presume so; but she does not understand children.

2d Parent: Why?

1st Parent: My daughter is in her room. She is quite sensitive, and Miss Smith makes such sarcastic remarks that I have hard work to keep Edith in school.

2d Parent: I have heard my daughter speak of her in the same way. Mary often says she is afraid of her.

1st Parent: She seems to keep at Edith every day. Others may fail and nothing be said, but my girl never escapes. Now, is that fair?

2d Parent: No, of course not. Miss Smith has taught a long time; she has been well educated, travelled abroad, and ought to be a first-class teacher.

1st Parent: Of what use is all that education, if she does not understand human nature?

2d Parent: Of very little use, certainly. Ought not the principal of the school to watch his teachers, and help them to correct such mistakes in their work?

1st Parent: Yes. But the remedy lies deeper than that. We need more *married* teachers, male or female, who know more about children's ways and thoughts, and better how to influence and help them.

WHY, saith Thales, a certain person sent him (Bias) a beast for sacrifice, with this command, that he should return him that part of the flesh which was best and worst; our philosopher very gravely and wisely pulled out the tongue of the beast, and sent it to the donor: — which single act procured him the name and reputation of a very wise man. — *Plutarch's Morals.*

METHODS IN GEOGRAPHY.[1]

(*Third Series.*)

II.

BY LARKIN DUNTON, LL. D., AND MISS L. T. MOSES.

NATURE LESSONS — THIRD YEAR.

The Dew and Frost.

THE power of making and holding in the mind different mental pictures to be recalled at pleasure, is of use in these lessons on the dew and frost, as it is in all the work of this year, where the attention is to be held chiefly to the knowledge of certain obvious relations, and to a simple classification of the different objects studied. This classification is in all cases to be a result of the observation of the likenesses and differences in the different manifestations of the phenomena studied.

The particular relations to which the attention is to be directed this year, in the study of the dew and frost, are those which bear upon favorable and unfavorable conditions. In order that the relation of the dew to the clearness and stillness of the atmosphere may be seen, the pupils must observe the conditions of the atmosphere at the same time that they observe the dew. A beginning was made in this direction the previous year, when the pupil pictured to himself, the next day, not only the grass covered with dew, but the sky with its blazing stars, and the air soft and gentle, hardly brushing his cheek as he stood and attended to it all.

Once more the teacher selects a favorable night for the deposition of dew, and gives her directions for the observation of the grass, the walks, the sky, and the air. Once more the children are told to watch till they know all that is to be seen, or heard, or felt. And once more the children tell, the next morning, what they have seen, heard, and felt, both at night and in the morning. In this recall of the scene, particular attention is paid to the absolute clearness of the night. This scene is to be recalled each day to keep it ready for use when other observations are to be used with it. Should other favorable nights intervene before the lesson the pupil should observe them in the same way.

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[1] Copyright, 1887, by Larkin Dunton, and Miss L. T. Moses.

At last a night comes when it is perfectly clear, but with a brisk wind blowing. The children are to look for the dew, and observe the sky and the air as before.

The next morning they are asked about the dew.

"There was no dew at all last night, Miss Holt!" cries Ralph.

The children agree that Ralph is right.

"You must tell me about the night, children."

"It was quite clear, for I saw the stars; some of them were very bright. It looked just like the night we had that very heavy dew, and like the night before when we had dew, Miss Holt."

"But, Miss Holt, the night was not exactly like the nights Lucy speaks of."

"I only said it looked like those nights. I did not say it was like them, for they were still, and last night the wind blowed quite hard."

"I do not think it looked like those nights. For last night the grass bent to the wind, and the branches and leaves of the trees moved, Miss Holt."

"You are right, Jenny. But I noticed another difference that none of you children have mentioned. John has his hand up, and may tell us."

"We could hear the wind and other things last night, Miss Holt."

"But John has not told everything, Miss Holt; for the other nights I could hear little sounds no louder than a butterfly would make if he turned over in his bed, and last night we could only hear loud sounds that the wind made as the branches creaked."

"It was like the sea, Miss Holt!"

"What was like the sea, Fred?"

"Why, the noise the wind made in the trees."

"I believe you have told me all about the night now, children. Who can tell once more the differences between last night and the other nights?"

"That is good; you have now found three clear nights; on two of them the dew fell, and on the other there was no dew; and you have found out the difference between the dewy nights and the dry night.

"Yes, I know what you want to say; but you may put your hands down and watch more nights. If you find the wind and no dew five or six nights, then you will be sure enough to tell me. But no wise person, even if he is small, says he knows anything of that sort is true till he has seen it many times. You think you know all about it, too, and you know very little, not half, even, if what you think is true.

"I want to know just what you are going to watch for. Flora may tell me."

"I am going to watch for clear, windy nights, and find out if it is the wind that keeps off the dew, Miss Holt."

"Good; but I should like to have you watch something else. I am afraid a girl is not wise, if she thinks she knows something surely when she has seen it only twice. What are you going to watch for, Will?"

"I am going to watch for just what Flora is, and besides I want to find more clear still nights when we have the dew."

"Good, Will; I should like to have you all watch for what Will does. You may tell me all together what you are going to watch for, beginning with what Flora said, and then telling what Will said."

The teacher now waits for a cloudy night, either windy or still, and gives special directions for watching for dew. Meanwhile she calls for results of observation on all the intervening clear nights, whether windy or still. Should the first cloudy night be windy, the children simply tell their observations. Should it be still the rest of the lesson follows.

The next morning the teacher says: "Well, children, you had a night still enough for dew last night; tell me about the dew this morning."

"There is not a drop on the grass, or anywhere, Miss Holt."

"Well, well. We have found that it takes something else besides stillness to give us dew."

"I think we found the other thing before, Miss Holt. We found the night must be clear, and last night was very cloudy. Indeed, the sky was almost entirely covered."

"How many of you children think you can tell me two things that must be true of a night when we have heavy dew?"

"That is good, and I am glad you all knew. You may tell me together."

"Now I have a wonderful thing to tell you. There is one thing more besides stillness and clearness; for I have seen still, clear nights when the ground was covered with something else than dew. That is a puzzle for you to find out. I think you will be sure to know before many days are past, for the nights are coming cold."

"Oh! I know, Miss Holt, it is the frost!"

"What is the frost, Fanny?"

"What we have on still, clear nights, when the weather is cold, Miss Holt."

"Now, somebody can tell me what else we must have besides a still, clear night to have dew."

"We must have a still, clear night that is not too cold, Miss Holt."

"Right, Ned. We are all ready now, when the cold nights come to watch and find whether Jack Frost likes the same kind of night that Dolly Dew does. I wish, though, you could tell me now what things you particularly like about the dew."

And the children tell the different things that please them. One likes the dew for its beauty; it shines and sparkles so; another thinks it makes the grass fresh and green; a third likes it, because it makes the flowers happy. At least, she thinks they are happy, for they smile when the sun shines on the dew and on them. Yet another likes it because it is still and walks on velvet feet. John likes it, because it comes in the bright still nights, and because there is so much to learn about it; he says he has not yet found out surely what makes it dry under the trees, but he thinks he knows. Nellie likes the dew because it makes everything fresh and summer-like.

The children repeat the things they mean to find out about the dew, and the teacher says there is one thing more to watch for, and that is to see if there is just as much dew one night as another. The children think they know already, and wish to tell; but as they have not watched particularly for that, the teacher thinks it better for them not to tell till they know.

The lessons on the frost are managed in the same way as those on the dew. The distinction between frost on the ground and frost on the windows should be clearly drawn, and a separate study of window frost should be made; but the two must be kept clear.

When the observations have all been made, the frost on the ground and the dew are compared and classified as light, heavy, and very heavy. No classification should be made until the amount on several nights is observed, and the relation between the amount of dew or frost and the clearness and stillness of the night should be known and stated.

The poems to be read this year by the children and to them, should be by standard poets as far as possible. These poems should be committed to memory, and they will be of real pleasure and value to the pupils. It is well known that an acquaintance with one selection of an author enhances the value of other things written by him; and it is believed that children, even as young as these, can begin profitably to know works of art.

It may not always be easy to find whole poems on the subject of the lessons; in this case selections may be made from different poems. Thus, on the subject of the dew the following would serve: —

"I must go seek some dew-drops here,
And hang a pearl in every cowslip's ear." — *Shakespeare.*

"The rose is sweetest washed with morning dew." — *Scott.*

"The dews of the evening most carefully shun,
Those tears of the sky for the loss of the sun." — *Chesterfield.*

"The morn in russet mantle clad
Walks o'er the dew of yon high eastern hill." — *Shakespeare.*

"For the starlight dews all silently their tears of love distil, weeping themselves away
Till they infuse deep into Nature's breast the spirit of her hues." — *Byron.*

INTERESTING GEOGRAPHICAL COMPARISONS.

BY SEYMOUR EATON.

WHEN we learn from astronomers that the sun is as large in circumference as the circle made by the moon in passing around the earth, we are inclined to draw a long breath; yet we have on "dry land," and by actual measurement, some comparisons of sizes which are, to say the least, quite interesting.

1. Asia is more than four times as large as Europe, and considerably larger than North and South America together.

2. The United States and Europe are almost equal in area.

3. British India is more than half as large as the United States.

4. Canada is nearly equal in area to this country, including Alaska.

5. Ireland and Indiana are about the same size.

6. England and Michigan are about the same size.

7. You could take enough land from Texas to make England, Ireland, Scotland, Belgium, The Netherlands, Switzerland, and Denmark, and still have enough left to make Massachusetts, Rhode Island, Connecticut, New Hampshire, Vermont, Delaware, New Jersey, Maryland, and Indiana. California is the second largest state. Nebraska is more than twice the size of Indiana.

8. The island of Cuba and the State of Tennessee are equal in area.

9. Brazil is nearly as large as the United States; but the population of the latter is seven times that of the former.

10. If all the people of Canada and of the United States were placed in the State of Texas, the number of persons to the square mile would be fewer than at present in China.

11. Colorado is as large as New York, Pennsylvania, and New Jersey together.

12. It would take ten states as large as Massachusetts to make a state as large as Kansas.

13. There are twenty-seven states or territories each larger than New York.

14. Oregon is equal in area to New York and Pennsylvania.

15. Massachusetts is smaller than either New Hampshire or Vermont.

16. Minnesota is twice the size of Ohio.

17. The three states bordering on the Pacific are larger than the thirteen states bordering on the Atlantic.

18. Montana is thirty times larger than Connecticut.

19. Iowa is five times as large as Belgium, and four times as large as Denmark.

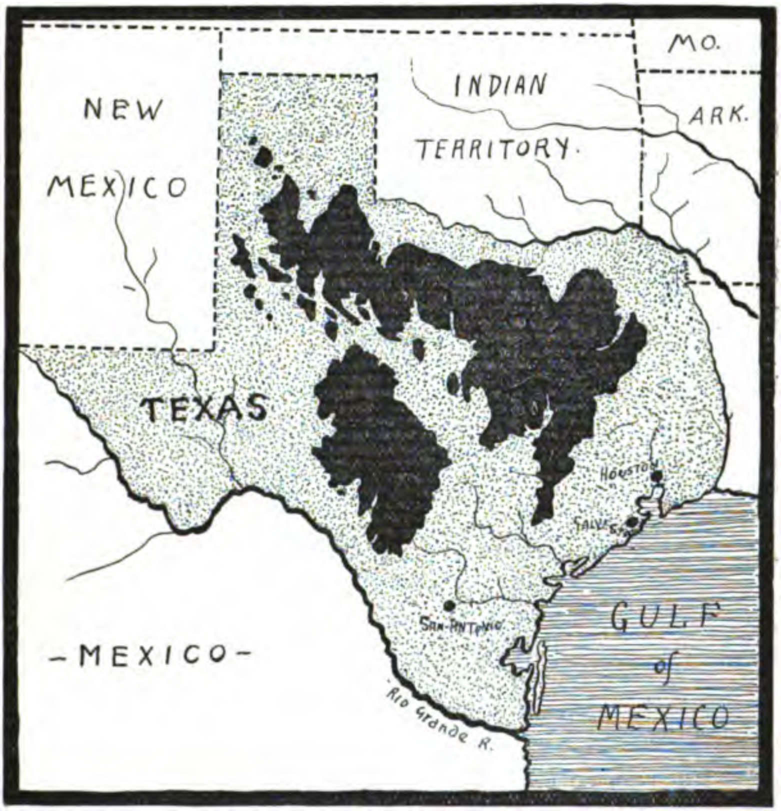
20. Maryland and Switzerland are about the same size.

21. London is as large as New York City, Chicago, Philadelphia, Boston, Baltimore, and Cincinnati together.

22. There are twice as many people to the square mile in England as in Rhode Island, — the most densely populated state in the Union.

23. Japan is equal in area to Montana, and supports more than half as many people as there are now in the whole of the United States.

24. Ireland had double the population in 1841 that she has at present.



The accompanying map was engraved for this article, and shows Texas and the British Isles, each drawn upon the same scale. Think of the "room" we have and the possibilities of growth!

THE STUDY OF SYNONYMS.

BY RUTH E. MOWRY.

APT AND FIT.

1. APT is derived from the Latin. FIT is derived from the Anglo-Saxon.
2. Both mean suited or adapted.
3. When used in a certain sense, APT and FIT are almost synonymous terms; but APT has an active sense, and FIT a passive sense. This distinction is clearly shown by Shakespeare in Hamlet, where the poisoner says, "hands APT, drugs FIT."
4. "Our hearts more APT to sympathize with heaven,
   Our souls more FIT for future glory."

SARCASM, SATIRE AND LAMPOON.

1. All three are derived from the Latin.
2. All three refer to keen expression uttered with some degree of scorn or contempt.
3. SARCASM is usually briefer than SATIRE or LAMPOON, and is a cutting jest, or satirical remark. SATIRE differs from LAMPOON, in that it is usually general and impersonal, and refers to the vices and follies of the times, while LAMPOON is more personal and often dictated by malignant feelings and is intended to wound or injure. It is generally more bitter than SATIRE.
4. "I am aware, how much by this advice I have laid myself open to the SARCASMS of those critics who imagine our art to be a matter of inspiration."

   "Amongst the Romans the word SATIRE was not only used for those discourses which decried vice or exposed folly, but for others also, where virtue was recommended. But in our modern languages we apply it only to invective."

   "Mr. Bettesworth," answered he, "I was in my youth acquainted with great lawyers, who, knowing my disposition to SATIRE, advised me, that if any scoundrel or blockhead whom I had LAMPOONED should ask: 'Are you the author of this paper?' I should tell him that I was not the author; and, therefore, I tell you, Mr. Bettesworth, that I am not the author of those lines."

EDITORIAL.

WHAT is your special purpose this term?

THE intellect should never grow at the expense of the heart.

WHAT are you doing to train the imagination of your pupils?

RAPIDITY is one of the important points in learning a good chirography.

A TEACHER who wears a bright ribbon to please her pupils understands youthful human nature.

SOME towns have already begun to promote teachers who attend summer schools, instead of the stay-at-homes.

THE discipline of the schoolroom is in many cases greatly increased because there is so little discipline in the home.

"HIS cheerful words always drove despondency from my mind," said one teacher of a departed brother in the ranks.

IN mental arithmetic nothing is more beneficial than very simple operations quickly performed. Many teachers forget that *quickness* as well as accuracy is essential in numbers.

TEACHERS, parents and school committees are not three hostile powers, but all working for common purposes. They should then become well acquainted with one another.

IF copybooks are properly used in teaching penmanship they are of the greatest advantage, but some teachers think more of keeping a copybook neat and free from blots than they do of learning to write.

HABITS of cleanliness are not easily instilled into the minds of some children. The teacher must begin early in the year and patiently work on the problem by line upon line and precept upon precept. A piece of modern soap is also very helpful.

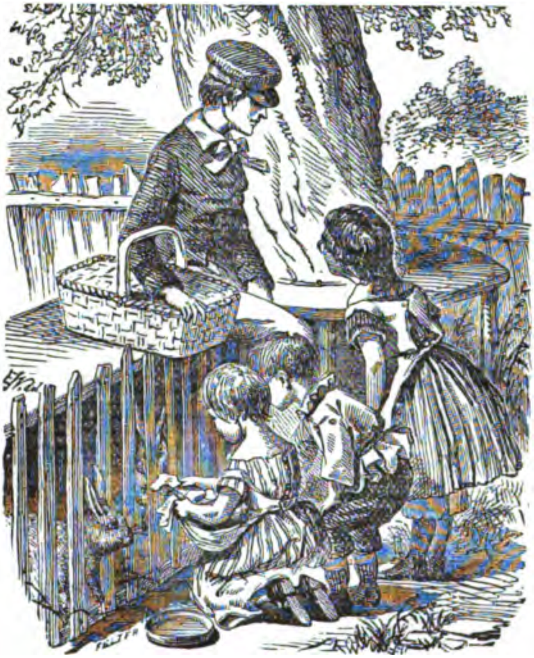
Good judgment is needed on the part of teachers in giving out the free textbooks so that no child receives a book which seems old, dirty, and repulsive. All dirty books should be returned to the school committee and destroyed to prevent the spread of skin and other diseases.

By this time the teacher should become quite familiar with the individual characteristics of the different members of her class. They may be grouped as the lazy, ambitious, mischievous, self-willed, obedient, bright, and dull. Carefully laid plans should be now formed to help the lazy, mischievous and dull to overcome their besetting sins, and become stronger intellectually and morally. This can be often accomplished more successfully if the help is given indirectly rather than directly, by the teachers.

The wise principal will call upon his oldest class to exert a moral influence upon the younger boys and girls in the school, towards good behavior. They can do this by example and precept. The influence of the highest class is tremendous for or against the general discipline of the school. Arnold, Headmaster of Rugby, used to say that he could do nothing without the support of the "Sixth Form," or "first class," as it is called in Boston. A teacher who has been in an academy or college remembers the potent influence of the "*Seniors*." That influence is nearly as great in any graded school, be it Primary, Grammar, or High School. The Senior class can make a liar or thief very unpopular, and thus elevate the moral character of the school. A few words from the principal is generally sufficient to turn this influence in the right direction.

The appointment of Dr. William T. Harris to the office of Commissioner of Education is highly creditable to the appointing power, and very gratifying to all friends of education. It is one of those rare cases where the man selected will magnify and honor the office. It is also one of those unusual cases in which everybody is satisfied. Doctor Harris is one of the most erudite scholars and philosophical men of the age. His stores of exact information on matters of art, literature, theology, metaphysics and philosophy; his knowledge of the history of all the great nations of the earth is unequalled. For years he was the leader in the famous School of Philosophy at Concord. But what makes him eminently fitted for this position of United States Commissioner of Education is his practical knowledge of the public school system of this country, and of the history of education in all lands. This highest educational official position in the government will hereafter exert great influence and win due respect.

HAPPY HOURS.



THE RABBITS.

This picture furnishes a good subject for the children to write upon. The teacher can show them the picture and inquire all about it. Is the scene laid in the city or country? Is it summer or winter? Are the children at home or away from home on a vacation? Do children usually like rabbits? Do they naturally like animals? Should they be kind to all animals? Tell the story of this picture.

WHAT SHALL BE OUR NATIONAL FLOWER?

It will be a good plan for any teacher to take a vote of the school upon the choice of a national flower. It is probable that in almost any section of the country the Golden Rod will have a majority of either teachers or pupils in its favor.

A vote was recently taken at the Martha's Vineyard Summer Institute, which resulted as follows: There was one vote for each of the following — apple blossom, rose, carnation pink, sunflower, clover, violet, pond lily, lily, Indian corn; two for dandelion; three for pansy; five for daisy; nine for arbutus, or Mayflower; eleven for laurel, and *eighty for golden rod.*

Lucy Larcom, in *St. Nicholas*, tells prettily in verse a child's quandary in the matter. The teacher may make a Friday afternoon exercise upon this subject, and, at the close of the discussion, which may have brought out not only the choice of the children but the reasons for such choice, have a little girl or boy recite Miss Larcom's poem, which is as follows: —

THE NATIONAL FLOWER.

A CHILD'S QUANDARY.

They have asked me to vote for a national flower.
Now, which will it be, I wonder!
To settle the question is out of my power;
But I 'd rather not make a blunder.

And I love the Mayflower best — in May —
Smiling up from its snowdrift cover,
With its breath that is sweet as a kiss, to say
That the reign of winter is over.

And I love the Golden-rod, too — for its gold;
And because through autumn it lingers,
And offers more wealth than his hands can hold
To the grasp of the poor man's fingers.

I should like to vote for them both, if I might;
But I do not feel positive whether
The flowers themselves would be neighborly quite —
Pink and yellow don't go together.

Oh, yes, but they do! — in the breezy Wild Rose,
The darlingest daughter of summer,
Whose heart with the sun's yellow gold overflows,
And whose blushes so well become her.

Instead of one flower, I will vote for three:
The Mayflowers know that I mean them;
And the Golden-rod surely my choice will be,
With the sweet Brier-rose between them.

You see, I 'm impartial. I 've no way but this:
My vote, with a rhyme and a reason,
For the Mayflower, the Wild Rose, and Golden-rod, is —
A blossom for every season!

— *Lucy Larcom, in St. Nicholas.*

THE BOSTON HORSE AND THE ELECTRIC CAR.

I 'M the happiest horse in town tonight!
I go with flying feet!
For I have seen the gladdest sight,
Way down on Boylston street

And what it means I know full well;
  And when I 've said my say,
Down where I dwell at the Horse Hotel,
  There will never a horse say "neigh."

I know I 'm right; and now for the sight
  On Boylston street I saw —
A street-car with a brilliant light,
  But never a horse to draw.
It rolled along, now fast, now slow,
  Steady and straight on the track;
But what made it go, I 'm sure I don't know —
  There was no horse, front or back.

It looked like the other cars in town;
  Yet there 's something strange, I feel;
Tonight I saw, on looking down,
  The lightning under the wheel.
I heard things out of the common rule —
  Strange words I never knew;
Yet I 'm not a fool; I have been to school
  To Mister Bartholomew.

I am simply a slave; but my freedom is won!
  The thought thrills through my soul!
If without a horse one car can run,
  Why cannot a thousand roll?
I am tied to the track; one day from my back
  The harness will drop at my feet,
And I shall be free; no work then for me
  On the track of the stony street.

With a sniff and a snort, and a toss of my head,
  And a flirt of my flying feet,
I will take my bones from the pavement stones
  To the prairie soft and sweet!
And day and night I shall owe my flight,
  And the joys I there shall meet,
And my freedom bright, to the strange, strange sight
  That I saw on Boylston street.

— *L. J. Gregg*, *in Wide Awake*.

MONEY is a good servant, but a bad master. — *Bonhours*.

BY entertaining *good* thoughts, you will keep out evil ones.

I LOVE my country's good, with a respect more tender, more holy and profound, than my whole life. — *Shakespeare*.

GOOD nature will always supply the absence of beauty, but beauty cannot supply the absence of good nature. — *Addison*.

EXAMINATION QUESTIONS.

Examination of the Primary Schools of Boston, for Promotion, January, 1889.

WRITTEN ARITHMETIC. — First Class.

A.

1. Albert's father is 45 years old. His uncle is 9 years younger. How old is his uncle?

2. Amy's room is 6 yards and 2 feet long. How many feet long is it?

3. Abbot strung 40 beads. His sister strung $\frac{3}{8}$ as many. How many beads did his sister string?

4. Ada put into her money-box at different times 10 cents, 15 cents, 25 cents, and 50 cents. How many cents in all did she put into her money-box?

5. Anna has been at school seven hundred thirteen days. Her cousin has been at the same school five hundred nine days. How many more days has Anna been at school than her cousin?

6. Mr. Alden cut down 248 trees one year; 193, the next year; 367, the third year; and 175, the fourth year. How many trees did he cut down in the four years?

7. A family uses 125 pounds of sugar each month. How many pounds does it use in 8 months?

8. A farmer sells 702 quarts of milk in 9 months. He sells the same number of quarts each month. How many quarts does he sell each month?

B.

1. Bessie had 53 cents and Sarah had 8 cents less. How many cents had Sarah?

2. Burton's garden is 5 yards and 1 foot long. How many feet long is it?

3. Bella has 42 books. Ida has $\frac{4}{7}$ as many. How many books has Ida?

4. Bob earned money by doing errands. At different times he earned 50 cents, 10 cents, 15 cents, and 15 cents. How many cents in all did he earn?

5. Ben sold seven hundred sixteen papers. Jack sold five hundred nine papers. How many more papers did Ben sell than Jack?

6. Mr. Barnes raised 236 bushels of corn one year, 185 the next year, 274 the third year, and 169 the fourth year. How many bushels of corn did he raise in the four years?

7. A milkman sells 135 quarts of milk each week. How many quarts will he sell in seven weeks?

8. Mr. Bates received 664 dollars for 8 months' work. He received the same number of dollars each month. How many dollars did he receive each month?

C.

1. Charles had 57 marbles. Edwin had 8 less than Charles. How many marbles had Edwin?

2. Carrie's rope for her swing is 8 yards and 1 foot long. How many feet long is it?

3. Carl has 36 toys. His brother has ⅚ as many. How many toys has his brother?

4. Clara spent for Christmas gifts 15 cents, 20 cents, 10 cents, and 50 cents. How many cents did she spend for Christmas?

5. Mr. Cobb bought seven hundred seventeen barrels of potatoes, and four hundred eight barrels of apples. How many more barrels of potatoes than apples did he buy?

6. A farmer set out 267 pear trees, 158 peach trees, 353 apple trees, and 147 cherry trees. How many trees did he set out?

7. Mr. Carver saves 147 dollars each month. How many dollars will he save in 6 months?

8. Mr. Cook paid 688 dollars for 8 carts. He paid the same number of dollars for each cart. How many dollars did he pay for each cart?

D.

1. Daisy's father is 42 years old. Her mother is 7 years younger. How old is her mother?

2. David's fishing-line is 7 yards and 2 feet long. How many feet long is it?

3. Delia answered 32 questions in arithmetic. Jane answered ⅞ as many. How many questions did Jane answer?

4. Dan gave away at Christmas 25 cents, 25 cents, 15 cents, and 20 cents. How many cents did he give away?

5. Mr. Dean sold six hundred fifteen boxes of soap. Mr. Brown sold five hundred seven boxes of soap. How many more boxes of soap did Mr. Dean sell than Mr. Brown?

6. In one school there are 157 children; in another, 235; in another, 348; and in another, 179. How many children are there in the four schools?

7. Mr. Dixon sold 159 tons of coal, at 6 dollars a ton. How many dollars did he get for the coal?

8. Mr. Drew saved 658 dollars in 7 months. He saved the same number of dollars each month. How many dollars did he save each month?

COMPOSITION.—First Class.

Read this story twice, give it back to your teacher, and then write all you can remember of it.

THE LOST COIN.

A poor, feeble woman, after a hard day's work, got into a horse-car to carry a large bundle to a lady for whom she had been working.

As soon as she had taken her seat the conductor came for her fare. She handed a quarter of a dollar to him. He gave her the change; and as she was putting it into her pocket, a coin fell to the floor and was lost.

The poor woman tried hard to find it. A gentleman on the other side of the car saw how troubled she was. He put his hand into his pocket, and then took it out. Soon he bent over and began to feel along the slats on the floor of the car. Then he looked up and said pleasantly: "Here, my good woman; here is a coin which is yours." He left the car almost before the woman had time to thank him.

She was surprised to find that the coin was a five-dollar gold piece. She thought the conductor had made a mistake in giving her the change. But the people in the car told her it was all right, and that the money belonged to her.

The gentleman who put the coin into her hand loved to do kind deeds. He was known all over the city for his wise ways of helping the poor. The good woman, with a thankful heart, put the coin carefully into her pocket, and tried to hide her tears of joy.

SEMI-ANNUAL EXAMINATION QUESTIONS.

Given in one of the Schools of Boston.

GEOGRAPHY. — FIFTH YEAR IN GRAMMAR DEPARTMENT.

1. Name the longest river in Africa, and several towns situated on it.
2. Describe in a few words the town at the mouth.
3. Give the causes which produce the largest desert in the world.
4. What are the productions of the Congo region?
5. Name in order six large border seas of Asia.
6. Name the three most important islands east of Asia.
7. What are the prevailing religions in Asia?
8. Compare Siberia with Arabia.
9. Compare the Negro with the Chinese.
10. Draw a map of Asia, showing the important mountains, rivers and political divisions. Print and locate on it the seven largest cities; the five largest peninsulas; the three most prominent capes, and four border seas. Print in red ink the leading productions of each country. Draw and mark the equator, Tropic of Cancer, and Arctic Circle.

LANGUAGE. — FIFTH YEAR IN GRAMMAR DEPARTMENT.

1. (*a*.) Write a sentence containing a relative pronoun. (*b*.) Analyze the sentence.

2. (*a*.) What is a phrase? (*b*.) How many kinds are there? (*c*.) Illustrate in sentences.

Write three sentences — the first containing "John" used in the first person; the second with "John" used in the second person; the third with "John" used in the third person.

3. Decline Maud, it, and us.

4. Write the plurals of these words in sentences: — money, staff, sheaf, he.

5. Make two simple statements: combine them into a compound sentence.

6. Write a subscription for a paper or magazine.

7. Write a selection, of not less than four lines, that you have learned this year. Re-write this in your own words.

8. Dictation: — "Mary," said I, "will you please bring me this morning's Herald?" Mary said, "Doctor Moran, our Supervisor of Hygiene, visited us this week."

9. Write the following sentences on the board, and let the children write them correctly: — where are you going paul come frank the boat is ready.

10. Write a short composition on one of the following subjects: — Circulation; Digestion; Brazil; Chili.

A BASKET OF CHIPS.

ONLY one-tenth of American teachers have ever been to a normal school.

THE dwarf nasturtium is a good plant for hanging baskets in schoolrooms.

THE world moves. At Girton College, England, they have recently established a stocking-darning club.

AN egg is said to contain as much nourishment as a pound and a quarter of grapes, or four pounds of pears.

IT is expected that 25,000 women will register to vote for school committeemen in Boston, at the December city election.

MR. B. F. MC DANIELL of San Diego, Cal., has devised and put in operation a "Public School Savings Bank" system. It is simple, ingenious, and practical.

THE selection of an emblematic national flower has nearly settled down to a choice between the trailing arbutus and the golden rod, the latter being rather ahead at last accounts.

ACCORDING to recent statistics, a passenger can travel in the cars in this country 51,000,000 miles before he is sure of being killed. If he wants any safer way of moving across the country, he must walk.

THE ENGLISH ILLUSTRATED MAGAZINE for October, begins several notable improvements. Among these will be a series of papers upon the Public Schools of England, by Judge Hughes, the author of "Tom Brown at Rugby."

CHARLES F. MESERVE, a successful grammar school principal in Springfield, is about to assume charge of the Haskell Indian Institute at Lawrence, Kansas. This school has about four hundred pupils. He will prove to be the right man in the right place.

IN England, more than half the instruction given to children in elementary schools, is given by boys and girls only a year or two older than their pupils. These little instructors are called "pupil-teachers," and receive a small compensation for their work.

A NUGGET of gold in shape like a crushed potato, nearly four inches long, weighing something over a pound, and worth about $300, was recently picked up in one of the mountainous departments of France, thus verifying Cæsar's statement of *Gallia Aurifera.*

LAST month at Baden, two German boys aged sixteen committed suicide, because they failed to pass a very hard examination. In their farewell letters they stated that their *Ehrgeiz* would not permit them to survive the disgrace of failure. Such feelings are not common among our American youth.

BOOK NOTICES.

ROUND THE WORLD WITH THE POETS. Selected and arranged by Mary Cate Smith, formerly Assistant in the Plymouth, N. H., Normal School, and Principal of Training Department, Normal School, Milwaukee, Wis., and Sarah C. Winn, First Assistant in the Gaston School, Boston, Mass. Boston: Charles H. Kilborn. Cloth. Pp. 97. Price, 25 cents.

This is indeed a very happy thought well executed. The poems, if learned by the class in connection with the lesson in geography for which they are adapted, will prove very helpful to the remembrance of the particulars of the country and section treated, and will at the same time assist in forming and establishing a taste for good literature. A special feature is an Illustrative Tour, introducing a whole class, and making a most interesting journey around the earth. To supplement the sometimes obscure definitions in textbooks, this use of poetry in the schoolroom will so add to the interest in geography that it will easily take rank as one of the most attractive studies.

WASHINGTON'S LETTER TO BENJAMIN HARRISON, Governor of Virginia, in 1784, on the Potomac navigation scheme and the general question of the opening of the West, has just been added by the directors of the Old South Studies in History to their new general series of Old South Leaflets. They have also added *Washington's Circular Letter to the Governors of the States*, on disbanding the army, in 1783—a letter which Washington himself felt to be so important that he termed it his "legacy" to the American people, and which discusses the political problems of the time so seriously and thoroughly that it should be read everywhere today along with the Farewell Address. The *Farewell Address* (No. 4), and the *First Inaugural* (April 30, 1789), (No. 10), have already appeared in this series of Old South Leaflets, which now numbers sixteen issues, each costing only five cents. The presentation of these important papers in this cheap form is a notable means of popular education in history. All the leaflets are accompanied by useful notes by Mr. Edwin D. Mead, the editor of the series. The notes accompanying the *Letter to Governor Harrison*, a letter of which far too little is known, show that no man of that time was so sagacious and far-sighted with regard to the future of the great West as Washington. These leaflets should be read by everybody at this Washington Centennial time. They are published by D. C. Heath & Co., Boston, New York and Chicago.

TEN DIALOGUES IN RHYME, FOR PRIMARY SCHOOLS. By Alice Turner and Gertrude Smith. Boston: Eastern Educational Bureau. Paper. Pp. 20. Price by mail, 15 cents.

Here are ten original dialogues in rhyme which will be so quickly learned and so much enjoyed by the little people in the primary schools that they will want the two young ladies to write some more for them. These poems are arranged, some for three persons, some for five, and a few for a larger number of boys and girls. They are all so written that in each is one or more boys, and no piece is without one girl to take a part. The "Rosebud Ring," and "Bessie's Grandmother," a little costume piece, are particularly bright and attractive.

THE INTERSTATE SECOND READER. By Kate L. Brown. Chicago and Boston. Interstate Publishing Co. Cloth. Pp. 198. Introduction price, 36 cents.

The author of this book has evidently some ideas upon primary reading, and they have been worked out in a very happy manner. The publishers have also taken much pains in making the book attractive. The type is large and clear. The cuts, of which there are many, are in the main pleasing and calculated to give the child new thoughts.

This series of reading books does not have the school book appearance, but they are, however, well and strongly bound.

PRACTICAL ENGLISH GRAMMAR. By Judson Perry Welsh, A. M., Professor of English Language and Literature, State Normal School, West Chester, Pa. Philadelphia: Christopher Sower Co. Cloth. Pp. 272. Price, 60 cents; for introduction, 48 cents.

In the preparation of this textbook, Professor Welsh has departed from the plan so universally followed in years past, of making an English Grammar after the same style as the Latin Grammar, and has adopted a new style differing in some respects from Mr. James Brown's "American System," and really like nothing which has come to our notice. As we have not space to give a clear idea of this book, we can only advise those interested to procure a copy and examine it. It is evident in looking through the book that English Grammar is treated directly as it is, and while experience may show modifications and changes necessary, we can commend the book as it now stands.

A READER IN BOTANY. Part 1. From Seed to Leaf. Selected and adapted from well-known authors, by Jane H. Newell. Boston: Ginn & Co. Cloth. Pp. 209. Price, 70 cents.

While not intended to be a complete book by itself, it is admirably adapted to awaken and keep in proper condition the enthusiasm of the student of botany. Its compiler has well arranged the chapters for reading in connection with the study of her "Outlines of Botany," recently published by Ginn & Co. Among the authorities quoted are such botanists as Anton Kerner Von Marilann, Julius Von Sachs, Charles Darwin, and Joseph Davier Saintine. Students in grammar or high schools will find this book of much interest and assistance to them in their study of this very attractive subject.

AUTOBIOGRAPHY OF FRIEDRICH FROEBEL. Translated and annotated by Emilie Michaelis, Head Mistress of the Croydon Kindergarten and Preparatory School, and H. Keatley Moore, Mus. Bac., B. A., Examiner in Music to the Froebel Society, and Vice Chairman of the Croydon Kindergarten Company. Cloth. Pp. 167. Price, $1.50.

While this is incomplete as a life of Froebel, it will be very gladly received by those kindergarteners who have looked, heretofore so nearly in vain, for something which would give them an insight into the life and habits, and particularly the thoughts and feelings of this man who has done so much for the children of today.

The book is made up of two long autobiographical letters, one to the Duke of Meiningen, and one to Kranse, together with many notes and explanations by the editors, chronological abstract of Froebel's life, and a bibliography of Froebel.

Merry Songs. For the School Room, Summer Normal Schools, Juvenile and other classes in Vocal Music, Social Circle, etc., including the Novel Key, or The Elements of Vocal Music. By S. C. Hanson. Chicago: A. Flanagan. Boards. Pp. 103. Price, 35 cents; or $3.00 per dozen.

The author of this new applicant for favor as a school singing-book has been for many years a teacher in public schools, and has brought out several other music publications. The music in this book is bright, and will be sung by the children with pleasure, while the words are well up to the average of children's songs.

The Graphic System of Object Drawing. Nos. 5 and 6. By H. B. Jacobs and A. L. Brower. New York: A. Lovell & Co. Price, $2.00 per dozen.

These books are large, and finely executed. The plan embodies a thorough system, at once practical and philosophical. The order of work is (*1*) *Question*, (*2*) *Fact*, (*3*) *Sketch for Practice*, (*4*) *Time Sketch, or sketch from Imagination*, (*5*) *Drawing from Group of Objects*. Then are suggested *Home Work and Subjects for Thought and Observation*. A good motto for the plan of work here presented is given, as follows: —

"When you are to draw a fish, do not first make a scale."

A little manual descriptive and suggestive, accompanies the book. Teachers will welcome heartily this new series and system.

Papers of the American Historical Association. Vol. III., No. 2. Report of the Proceedings of the American Historical Association in Washington, D. C., Dec. 26 - 28, 1888. Hy Herbert B. Adams, Secretary of the Association. New York and London: G. P. Putnam's Sons. Paper. Pp. 292. Price, $1.50.

Students of American History will be very much pleased that these papers have been published. Among the subjects treated are "The Early Northwest," by William F. Poole, LL. D.; "The Place of the Northwest in General History," by Prof. Wm. F. Allen; "The Old Federal Court of Appeals," by Prof. J. Franklin Jameson, Brown University; "The State-Rights Conflict over the Public Lands," by Pres. James C. Welling, LL. D., Columbia University, and many others of as great interest, and by as distinguished authorities.

Light Gymnastics. A Guide to Systematic Instruction in Physical Training. For use in Schools, Gymnasia, etc. By William G. Anderson, M. D., F. S. S. New York: Effingham, Maynard & Co. Fully illustrated. Cloth. Pp. 234. Price to teachers, $1.50.

There is little really new and original in this book. There are a few movements with and without apparatus which we have not seen, which Doctor Anderson describes and illustrates by means of diagrams.

The book will be of interest to such teachers who are at sea when brought face to face with the subject of physical exercise for pupils during school hours, where such exercise must be taken indoors. The principles given in this book in regard to the taking of exercise, and the care of the muscles of the body, should be known by every teacher.

Common School Education

DEVOTED TO THE ART OF INSTRUCTION.

VOL. III. NOVEMBER, 1889. No. 9.

SCHOOLROOM TONES.

BY CHARLES F. KING.

WE have sometimes noticed that very excellent teachers unconsciously get into the habit of giving instruction in a loud, high-pitched tone of voice which seems to the children a *scolding* tone. This is especially the case whenever these teachers feel called upon to reprove the class for neglect or carelessness. When they speak to a visitor, to another teacher, or even to a single pupil, the tone is pleasant, sweet, and natural.

It is of the greatest importance that teachers should speak grammatically, enunciate correctly, and use good English, but the constant employment of a pleasant, natural, conversational tone of voice is of equal, if not greater importance. For there is a great moral power in these pleasant tones. We have many times seen boys goaded to desperation by the excited, exasperating tones and words of a teacher whose long experience ought to have shown her a better way. And how many times have we seen bad and angry children soothed and restored to reasonableness by the calm, sweet, pleasantly-voiced utterances of a teacher who had gained perfect self-control, or whose nature was sweet and smiling by heredity. A "cross teacher" is never liked by children, no matter how much she knows.

It will be a difficult matter for a teacher who has for years used the cross tones to overcome the habit, but it can be done by persistent effort. In the *first place* ascertain if you use these tones habitually and constantly in the schoolroom, and not at home or at a party. This will show whether it is a school habit. It may be you do not always speak in this objectionable way in school, but only at certain times, as when things do not go to suit you, or when the class seem stupid and lazy. Some intimate friend may help you to the truth in this matter.

The next time matters are wrong in the class, by a strong effort, address the class in a more quiet, calm, low-pitched voice than usual. The effect will be surprising and encouraging, as the children will be at once brought back to the desired order. Do not for a few weeks overdrive in the work; be a little easier with yourself and your pupils till you get perfect control of your voice and feelings.

If the habit of using cross tones is quite general, we believe great help can be obtained from a course of elocutionary lessons under some professor who understands the case and knows the proper remedies.

NOTES FROM A SUMMER SCHOOL.

BY ELLEN E. KENYON.

II.

AN ILLUSTRATION OF GOOD METHODS.

A SINGLE hour with Mrs. Mary Cate Smith at the Martha's Vineyard Summer Institute in the geography class was sufficient to reveal to the untaught teacher all the secrets of true method. They were, as she exemplified them: —

1. A winning charm of manner.
2. Elaborate preparation.
3. Continuity of intention.
4. The use of all the means modern thought has suggested, each in its proper place.
5. The gentle development of the unseen from the seen, and the union of thought that is new to the pupil's mind with familiar thought.

It was a first lesson on hills. Mrs. Smith, proceeding on a principle of which some modern teachers have learned the value, but which I have not yet seen formulated, viz.: *Learn to teach by being taught*, treated her class of adult pupils as though they had been a class of primary children, except that the trip of observation they were supposed to have taken with her had to be an imaginary one. Basing her lesson on the supposed observations of the day before, she questioned them simply upon the hill just outside the schoolhouse, eliciting the facts that the land was high, uneven, sandy, steep toward the water, and not so steep on the inland side. Other hills, nearer the pupils' homes, were talked about a little, and the students were requested to look at some one hill very particularly on the way home, with a view to describing it and molding it in the sand the next day. Then some pictures of very high hills, called mountains, were shown, and it was observed that some had pointed and some round tops. The words, —

$$\text{Summit,}\begin{cases}\text{Peak,}\\ \text{Dome,}\end{cases}$$

were taught from these pictures, and a charming narrative of an ascent of Mt. Washington given. The pupils were invited to bring in, the next day, as many pictures as they could of mountains.

Mrs. Smith believes that it is impossible to teach geography to children that have never seen anything but brick and stone pavements. In every large city the educational authorities should provide occasion at least once a year for every child to visit the outlying country. When this occasion arrives the teacher should tell her pupils the day before what she wants them to observe. On the day following the excursion she should question them on these observations.

The order of study, in geography, as in some other subjects, should be to: 1, Observe. 2, Name; 3, Represent; 4, Describe; 5, Define.

If this order is observed, and the definition sought merely as a terse form of description, the pupil will do all the work and will escape the conning of ready-made and unintelligible definitions.

Geography is a subject so closely related to the emotional nature that a poem may form a very fitting climax to the lesson. To close the lesson on hills, Mrs. Smith gave a simple and beautiful little stanza, beginning: —

"Oh, silent hills, across the lake!"

Each natural feature observed should be made by the teacher a type of greater things, as the mountain brook of mighty torrents, the sand-hill of mountains, etc. When Mrs. Smith said this, the visitor thought of her own childhood, when, a little city girl herself, and supremely ignorant of mountain torrents, she found her type of mighty rivers in the sometimes noisy little streams that followed the fissures of melting ice in spring-time. Never mind! it was beautiful and beautifully suggestive in those days, and served better than no type at all.

In conclusion, Mrs. Smith quoted: —

"Whoever has wandered through the valleys and woods, and over the hills and mountains of his own state will be the one capable of following a Herodotus in his wanderings over the globe."

Huxley's Physiography, and *Ritter's Comparative Geography* were recommended as good teachers' books.

In addition to the material usually recommended for primary geography, a stereoscope is a wonderful help in giving the children approximate conceptions of nature. It should be left where the children can have access to it at odd times, and the pictures left with it at any given time should be illustrative of the subjects under present consideration.

THE KINDERGARTEN — WHY?

BY MAY MACKINTOSH.

WHY is it that of late we hear so much of the need of the Kindergarten as a preparation for the work of the school? Why is it that there must be a further preparation for school than that given in the majority of homes? (We can only consider in a question of *public* education the well-defined needs of the majority. Exceptional cases must be treated by exceptional measures.)

Now, keeping in view this central idea of what is required by the greatest number of the children flocking into our already densely populated schoolrooms, let us examine the different small personalities which make up the youngest primary class in any of the public schools of New York, Brooklyn, or vicinity. For our purpose, it is not necessary to consider differences of nationality; for the fundamental developments of childhood belong to the whole race, and not to any small portion of it, — even though long enough circumscribed by geographical situation to cause some slight variation from the type.

Let us stand for a few moments beside the teacher of this typical class, on, let us say, the second or third school-day of September. She has received the greater proportion, perhaps all, of her children, and now she and they must settle down into more familiar acquaintance and steady work. We will suppose our class to be composed of both boys and girls; so that it may present every variety of human character in embryo.

Here, at this side, is a little boy, black-haired, bright-eyed, pale, and highly intelligent in appearance. Next to him is a sturdy six-year-old, at this moment exerting his elbows more than his intellect on account of a fancied encroachment on his rights in space. Near, in another seat, is a white-haired boy, whose thin, sharp nose and lips lend him an undesirable air of precocity and worldly wisdom. This boy has never yet been a child. What will the school do for him?

Here is another, whose fathomless black eyes give rise to an involuntary shudder, so surely do they presage whatever may be the modern and scientific substitute for demoniac possession.

Here is the slow plodder; there the boy, who, generally from physical causes, has just enough sense to keep him out of an asylum; but who will fall hopelessly behind unless made the object of the teacher's special care and attention every moment of the day. This boy has faculties, but has no control over them; and this the teacher must supply while not neglecting the other children. There is great hope for this kind of child, if brought to a sufficiently self-denying teacher; but the teacher has to pay the forfeit, for "virtue" has indeed "gone out of her," by the time this child becomes an ordinary member of society.

Here is the intensely nervous, home-loving boy or girl, to whom the wrench of leaving home for the first time comes like the stroke of death to an adult.

Here the little girl whose whole attention is lost for the day if she is the proud possessor of a new dress, ornament, or hair-ribbon. Here, too, is the little Miss Pert, who likes to show off on all occasions; and the coquette, not *necessarily* either pert or vain, though often degenerating into pertness and vanity.

Here is the slow girl, with no self-confidence, who melts into tears at the least difficulty, and who needs all the strength and courage her teacher can communicate by word and smile.

But I need not particularize further; nor need I speak of the good scholars, both boys and girls, who understand, and can do everything required with ease. It is not for these that the profession of teaching exists; for they will make their own way under nearly any circumstances. And every teacher's experience will furnish countless illustrations of the various types enumerated; and will not improbably contain other types not mentioned in this paper.

Now here lies our problem. Having these children, what shall, or rather, what can we do with them? Our schoolrooms, with few exceptions, have little available space uncrowded by desks and seats. What if the nervous girl's or boy's physical nature imperatively demands room for free movement after a quarter of an hour's lesson? There is no room; and they remain sitting, and developing a nervous irritability and wandering attention, or rather, *an undue fixity of attention on their bodily discomfort.*

What does the Kindergarten offer? First, and most important (in the case of nervous children), plenty of room. In the second, a great variety of material for impressing on the child's mind the fundamental sensory perceptions; through things, rather than by the arbitrary signs of things — words.

With slow and phlegmatic natures, who always lag behind in their work, — we can say, — "if you do this work, which is hard for you, you may then take this nice weaving or sewing, etc., which you like so much."

The production in the Kindergarten is one of its most wholesome and helpful features. The child in school does not at first realize that the words on his slate or book, or the figures on the blackboard are representations of *things*, and therefore he does not attach more importance to making them than belongs to the fact that his teacher praises him if he tries to do them well.

In the Kindergarten, the first day is busily employed: and the result of this labor — a pretty weaving-mat, sewing-card, or straw-and-paper chain — is taken home at the day's end, while the child realizes that he has both worked and accomplished something. This congenial occupation comforts the home-sick little ones; and the question, "Whom will you give this to, Mamma or Papa?" is often the first step in a long training in unselfish living.

There is a common complaint among the teachers of little children, that it is so difficult to get them to talk. (I mean in their Language Lessons, of course; for we all know there 's no difficulty about it at all in unauthorized moments!)

Now it is vastly more interesting to build a wall four inches long and two inches high with one-inch cubes, and. then count the number of blocks required, than to perform the same operation by rule, and with figures. These have their place, and an important one; but surely that place is not before the child is capable of imaging the appearance and comparative size of such a wall. And now the language flows easily and naturally, to tell about the doing of this visible, tangible thing. Dozens of little problems can be made as to time and wages of workmen, etc., etc.

To go further. Does the child learn the facts of solid and plane form better by observation of the most elaborate models in the hands of the teacher, or by actual work in making them, each child for itself, in clay, cardboard, modelling, paper-folding, sewing, slats, sticks, etc., etc.?

To the embryo scientist, the leisure of the Kindergarten gives a possibility of patient individual investigation from day to day, of the various forms of curious animal and plant-life which find their way there. And in this connection I cannot too highly praise the suggestive lessons of Edward G. Howe in the "Kindergarten" * of June to October, 1889. These are of great value to both teacher and kindergartner.

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* Published by Alice B. Stockham & Co., 161 La Salle Street, Chicago. Price, 20 cents, single copy.

Another point in which I venture to think the Kindergarten may claim superiority to the methods of the school is its masterly use of the child's natural love of play. It must be remembered that the child teaches himself nearly all he knows of the outer world by his playful activity amongst its phenomena; and 'there should be no sudden arrest in any process of gradual development, it is not right virtually to treat the child as if he had learned everything wrong before entering school, but is now to be set on the right track.

To recapitulate, the Kindergarten offers, —

1. More room.
2. More time.
3. More varied and attractive material for work.
4. Methods more nearly approaching the spontaneous education of a well-ordered home, and therefore more suited to succeed it.

I have spoken of the disadvantages, inseparable in great measure, from our common school system; but I have not yet touched upon the reasons why children who can be kept from school until seven or eight years old, are benefited by a prior attendance at a Kindergarten. In the case of only children the answer is sufficiently plain. Selfishness is almost always developed where there are no other children to interfere with the pleasures of the one. or with the exclusive attention given to it. Such children are best taught the doctrine of *equality* in freedom of action, and the consequent restrictions of such action, in the little republic of the Kindergarten.

But in the case of children with brothers and sisters, the same discipline is needed, though not *quite* so much, perhaps; for a baby is not the equal in development of a three or four-year-old, and the older child requires the training of the half-unconscious measurement of its own doings by those of its peers.

The home gives the best possible training for home-life; but each human being needs also that larger training which fits it to take its true place in society. And if this first society is governed by the simple law of the "Golden Rule," and a general spirit of helpfulness encouraged on all occasions, is it likely that this training will be barren of results in our larger society whose laws are not always as praiseworthy.

Be noble — that is more than wealth;
Do right — that 's more than place;
Then in the spirit there is health,
And gladness in the face;
Then thou art with thyself at one,
And, no man hating, fearest none.

George MacDonald.

PRACTICAL METHODS OF TEACHING SPELLING.[1]

(*Second Series.*)

VIII.

BY ANNA B. BADLAM.

Principal Training School, Lewiston, Maine.

THE STUDY OF MAXIMS FOR LANGUAGE AND SPELLING.

Lesson 112. Moral Lesson.

" Be to others kind and true
As you 'd have others be to you."

GENERAL DIRECTIONS TO TEACHERS.

1. Write the maxim upon the blackboard for a class reading lesson.
2. Question the children until they can readily give instances of what is meant by being " kind and true."
3. Let them decide what the term " others " means. In this relation have a little talk with the children about kindness to animals.
4. Let the children recall little acts of kindness that have been shown them, and the feelings that were called forth by the acts. Let them decide whether in their dealings with people, they will be kind or unkind, true or untrue.
5. Write the expressions *you would* and *you 'd* upon the board, and let the children see the use of the apostrophe to denote the omission of a letter or letters when we wish to show a contraction of any two words, as *you 'd* for *you would.*
6. Write the two expressions *you would* and *you'd* upon the board. Let some child volunteer to change *you would* to *you 'd* by erasing the necessary letters and inserting the apostrophe to denote the omission. Let some child volunteer to change *you'd* to *you would* by erasing the apostrophe and inserting the necessary letters.
7. Have the maxim copied upon the slate.

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[1] Copyright, 1888, by Anna B. Badlam.

Lesson 113. Stems to be built upon for oral and written sentences.

Board-work for the Teacher.

1. — Suffixes.

kind	*true*	*have*	*other*
+	+	+	+
er	*ly**	*ing**	*s*
est	*th**		
	+		
ly	*ful*		
ness	*fully*		

* **Omit final** *e.*

2. — Prefixes.

un + *kind*	*un* + *true*	*an* + *other*
kinder	*truly*	*other's* †
kindest	*truth*	
kindly	*truthful*	
kindness	*truthfully*	

† **Explain the** *'s*, **meaning possession.**

Lesson 114. Elliptical Sentences. The stem *kind.*

Model for Board-work.

1.

kind + *er*, *est*, *ly*, *ness.*

This boy means to be - - - - .
He is a kind - - boy than he was a year ago.
He means to grow to be one of the kind - - - boys in the school.
He plays kind - - with his playmates.
He tries to show kind - - - - to all he meets.

N. B. — 1. Encourage the children to fill out each sentence orally. As each sentence is given correctly, fill in the blanks, in order, that the correct form of the word can be seen, and that the slate-work to be done in subsequent lessons will be clearly understood.

2. Encourage the children to tell how the several words were formed from the stem.

3. After the finished sentences have been read from the board, erase the work that has been inserted in the several spaces, thus leaving the work in its original form. Let the children copy the work upon the slate, and fill each blank with its special letter or letters, to complete the sentence.

2.

The prefix *un*.

Model for Board-work.

***un* + *kind*, *kinder*, *kindest*, *kindly*, *kindness*.**

A kind master is never - - kind to his horse.
He never speaks - - kindly to him.
A kind-hearted man will never show - - kindness to man or beast.
John was an unkind boy; little by little he grew - - kinder each day. At last he grew to be the - - kindest boy in the school.

N. B. — Follow the general directions given for Lesson 114, Part 1.

BUSY WORK.

Material for the children to build upon for slate-work.

Model for Board-work.

***kind* + *er*, *est*, *ly*. *ness*.**
***un* + *kind*, *kinder*, *kindest*, *kindly*, *kindness*.**

Model of slate-work when completed.

kind	***unkind***
kinder	***unkinder***
kindest	***unkindest***
kindly	***unkindly***
kindness	***unkindness***

Lesson 115. Elliptical Sentences. The stem ***true***.

Model for Board-work.

__true*__ + __ly__, __th__ __th__
+ __ful__, + __fully__.

* Omission of final *e*.

N. B. — Follow the general directions of Lesson 114.

1.

Try to speak what is - - - - .
__I tru* - - mean to do right.__
__I mean to speak the tru* - - .__
I want to be a truth - - - child.
I will try to speak truth - - - - - .

* Omission of silent *e*.

2.

The prefix ***un***.

***un* + *true*, *truth*, *truthful*, *truthfully*, *truly*.**

Do not tell what is - - true.
Never speak an - - truth.
No one can believe an - - truthful child.
If you are in the habit of speaking - - truthfully no one will believe you, even, if you sometimes speak the truth.
Never act dishonestly or - - truly towards any one.

BUSY WORK.

Material for the children to build upon for slate-work.

true[*] + *ly*, *th* + *ful*, *th* + *fully*.
un + *true*, *truly*, *truth*, *truthful*, *truthfully*.

[*] Omission of silent e.

Model of Slate-work when completed.

true	*untrue*
truly	*untruly*
truth	*untruth*
truthful	*untruthful*
truthfully	*untruthfully*

Lesson 116. Elliptical Sentences. The stem *have.*

Model for Board-work.

have[*] + *ing*

[*] Omission of silent e.

- - - - you had tea?
We are just - - - ing[*] *tea, now.*

Lesson 117. The stem *other.*

1.

Model for Board-work.

other + *s*.

I have only one book, where is my - - - - - ?
It must be among the other - upon the table.

2.

The prefix *an*.

an + *other*, *other's*.

I had one pencil, I bought - - other.
If you borrow what is - - other's,[†] *always return it.*

N. B. — Call particular attention to *'s* to denote possession.

BUSY WORK.

Material for the children to build upon for slate-work.

*have** + *ing* *other* + *s* *an* + *other* *other's*

* Omission of silent *e*.

Model of slate-work when completed.

have	*other*	*another*
having	*others*	*another's*

BUSY WORK.

Material for the children to build upon for slate-work.

Model for Board-work.

You would = *you'd*; *I would* = *I'd*; *he would* = *he'd*;
She would = *she'd* : *they would* = *they'd*; *we would* = *we'd*.

I wish *you would* help me.
I would help you, if I could.
He would go if it did not rain.
She said *she would* do it.
They would be here now, if they were coming.
We would like to have you stay, if you can.

GENERAL DIRECTIONS.

N. B. — Change to the contracted form in each case. 1. Let the children read each sentence and change it to the desired form. 2. Have the sentences written upon the slate, using the contracted instead of the full form of the verb.

BUSY WORK.

Material for the children to build upon for slate-work.

Model for Board-work.

You'd = *you would*; *I'd* = *I would*; *he'd* = *he would*: *she'd* = *she would*; *they'd* = *they would*; *we'd* = *we would*.

N. B. — Follow the general directions of the previous exercise, with the exception that the *full* form of the verb is to be used instead of the *contracted* form in each case.

You may go if *you 'd* like.
I'd go, if I could.
She said *she'd* help us.
They 'd like to do it, I know.
We'd not have time before dinner.
He 'd do it for me, I know.

PRACTICAL BOTANY.[1]

BY PROF. W. WHITMAN BAILEY, B. P., BROWN UNIVERSITY.

IX.

THE FLORAL ENVELOPES.

A FLOWER may have only one circle or *whorl* of the floral envelopes present. In such case, it is generally regarded as the calyx, as this is the outer circle of the theoretical flower. Such flowers, we have said, are *a-petalous*. But *both* calyx and corolla may be wanting; then the flower is called naked, or *a-chlamydeous;* i. e., " without a cloak."

The calyx or corolla, as the case may be, are considered to be formed of one or more leaves, either separate, or in case there is more than one, often more or less conjoined or coalescent. Instances of such union are familiar to everybody, in the corolla of " morning-glory," or four o'clock," or in the " trumpet creeper," or in both calyx and corolla in the " Jamestown-weed," or "thorn apple," (*Stramonium*). It is often necessary to indicate in some way that a union of this kind, in whatever degree, exists. Then, if it is the calyx one is speaking of, he writes " calyx *gamo* (or *mono*) *sepalous*," or " corolla *gamo*, or (monopetalous." If, however, the parts are perfectly distinct, i. e., free from each other, he writes " polysepalous." or " polypetalous," according to whether it is calyx or corolla of which he is speaking. In united parts the degree of the union is denoted by such terms as " entire," " lobed," " cleft," etc., according to the depth of the segmentation.

As to shape, separate parts are described in terms of the leaf, as " sepals ovate," " petals oblanceolate." Gamophyllous parts, i. e., those where leaves are " wedded " or blended into one body, assume a great variety of shapes. The descriptive names of these are often borrowed from familiar objects, as " urn-shaped," " tubular," " funnel-shaped." Any textbook of botany will present, and often figure a great range of these forms. The great diversity of shapes, and the colors of flowers afford most of their æsthetic attraction. There are great numbers of irregular flowers, like those of the pea, where the separate petals differ in form, or those of the butter and eggs, or wild snap-dragon, or any orchis, when the whole united corolla or perianth assumes an odd shape,

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or the lobes or teeth are unequal. There is the grinning or "ringent" corolla of some Figworts, the pipe-shaped calyx of *Aristolochia*, or the ligulate, or strap-shaped corolla of the dandelion. In these general hints it seems unnecessary to more than allude to these terms. It is presumed that a textbook will be consulted.

Hitherto we have treated of the union of parts of calyx or corolla with each other. "*Adnation*," or union with portions of the flower other than their own whorls is also of frequent occurrence. As marking large groups, for instance, it is often necessary to know whether a calyx is "free from," or "adherent to" the ovary. This is best ascertained by making a section of the flower with a knife from below upwards, cutting it through the middle. If you can pass the knife, or a pencil point between the ovary and floral envelopes; or, to express it differently, if the ovary appears in the centre of the flower as a detached ball, write "calyx free," or "ovary superior." A cherry flower would show this. On the other hand, a vertical section through a *Fuchsia* flower, or a pear, or apple-blossom, shows the "calyx superior," and "coherent with ovary."

In the case of the corolla, we often note its adnation or point of attachment, or "insertion" as it is often called. While normally inserted on the receptacle, it may be on the calyx, as in a cherry-flower, or on the ovary, as in any of the *Compositæ*.

In a good description the manner of folding in the bud, the so-called "*æstivation*," is always given, both for calyx and corolla. It may differ in the two.

When the separate sepals or petals, or the lobes or teeth of united calyces or corollas are opposed to each other, so that the edges touch in the bud (or would if they came together; they do not always *touch*), they are said to be "valvate." If they overlap like the scales of a fish, breaking joints, as it were, the æstivation is "imbricated." If one edge is in, and another outside, we say that the æstivation is "convolute." The questions to be used in connection with this lesson are appended below.

In an imbricated *Perianth*, each circle of three members is itself valvate.

THE PERIANTH. (This space is to be filled only when as in many monocotyledons, like the lily, the calyx and corolla are not especially distinguishable.)

Is it gamophyllous or polyphyllous?
If polyphyllous, give number and shape of sepals.
If gamophyllous, describe its tube and border.
Give æstivation, duration, color, etc.
Is it free from or adherent to ovary?

THE CALYX. Is it gamosepalous or polysepalous.
If polysepalous, give number and shape of sepals. Give color.
If gamosepalous, give shape, as a whole, and describe the border. Give color.
Is the calyx free from or adherent to ovary?
What is the æstivation and duration?

THE COROLLA. Is it gamopetalous or polypetalous?
If polypetalous, give number and shape of petals, noting the claw, if present. Give color.
If gamopetalous, describe its shape, with number of teeth, lobes or divisions. Give color.
To what is it adnate?
What is the æstivation and duration?

The "claw" of a petal is its stalk, if it has one, as in the case of carnation pinks, or more decidedly in many capers.

"Duration" is the length of time a flower lasts. It is "caducous" if the parts of calyx or corolla drop off as the bud opens, like the sepals of blood-root or celandine; "deciduous" if they fall, as do cherry petals, after the lapse of some time; "persistent" if they remain and wither on the stem, like the perianth of *Narcissus*.

LANGUAGE LESSONS AND EXERCISES.[1]

(*Second Series.*)

IX.

BY L. W. RUSSELL, A. M.

MARKS OF PARENTHESIS.

THE study of the uses of the marks of parenthesis should be taken with that of other marks employed for similar purposes. Discourse is often interrupted by the introduction of explanatory matter. The expressions which thus break the flow of sentences have varying degrees of remoteness from the general line of thought. These different degrees are properly indicated by corresponding changes in punctuation.

For phrases and clauses which quite closely coalesce with the general text, commas are sufficient to mark the interruption; and, at the same time, to show that it is slight; as, "Books, regarded merely as a grati-

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fication, are worth more than all the luxuries on earth." "It is mind, after all, which does the work of the world."

For matter which is more distinctly apart from the chief line of thought, still related, the dash is properly substituted for the comma; as, "If you wish to continue the conversation — I have no time to talk now — come to the theatre this evening and see the *Grand Duchesse*." [See, also, *examples* under 6, in VIII. of this series.]

For explanations or comments still more decidedly interruptions, or still more remote from the main thought, the "curves" ( ), are properly employed; as, —

"I am so ill at present (an illness of my own procuring last night: who is perfect?) that nothing but your very great kindness could make me write."

"Consider (and may the consideration sink deep into your hearts) the fatal consequences of a wicked life."

For the greatest degree of remoteness in explanatory matter — usually confined to notes, references and observations, standing by themselves, — the brackets [ ], are employed; as, "History," says Hillard, "is justifying the ways of God to man, and never more forcibly than in the fortunes of Spain." [Misfortunes we should say.]

SPECIAL APPLICATIONS OF THE MARKS OF PARENTHESIS.

1. Explanatory remark: "Thanksgiving" (a poem not unworthy of Wordsworth), "Pictures from Memory," "Order for a Picture," and "Poet to the Painter," are among the best poems of Alice Carey.

Whether writing prose or verse (for a portion of the work is prose) the author knows both what to blot, and when to stop.

2. Side Remarks: —

Approach and read (for thou can'st read) the lay
Graved on the stone beneath yon aged thorn. — *Grey.*

He gave to misery all he had, a tear —
He gained from heaven ('t was all he wished) a friend. — *Ibid.*

Blount and Fitz Eustice rested still
With Lady Clare upon the hill;
On which (for far the day was spent)
The western sunbeams now were bent. — *Scott.*

3. Enclosing illustrative marks: —

These slides are "rising," marked (´); or "falling," marked (`)

The makron (‒) denotes the long sound of a vowel; the breve (˘), the short sound.

4. Enclosing Translations: —

Ultimo (Last month). *Instant* (Present month). *Proximo* (Next month); or, Forenoon (*ante meridian*). Afternoon (*post meridian*).

5. *To enclose figures, letters or other characters to mark successive points of a leading statement:* —

Concerning the signature of a letter there are several important things to be noticed; as, —

(*a*.) It should be legibly written; it is an inexcusable impertinence, if not worse, to send an illegible scrawl for one's name.

(*b*.) In all business letters it should be written in full; in law this is decisively requisite.

(*c*.) It should be written on the line next below the complimentary words of closing the letter; it is not safe to leave much blank space above your signature.

(*d*.) It is not in good taste to take a new page for the signature alone; crowd a little if necessary, or run some of the "body" of the letter upon the new page.

(*f*.) A lady writing to a stranger should give her title, "Miss" or "Mrs.," so that she may be properly addressed in return.

The Arabic numerals are used within the curves to mark successive divisions of a leading subject or statement, when these are massed in one paragraph, — as illustrated below: —

Points which should receive special attention in teaching oral reading are, — (1) Position and carriage of the body; (2) depth and manner of breathing; (3) articulation, — as affected by active or sluggish use of the proper organs (tongue, teeth, lips); (4) quality of tone, — as modified by the breathing, by bodily activity, by the feelings, and by a comprehension of the matter to be read; (5) versatility of the voice, in adapting it to varying moods of thought and feeling; (6) pronunciation of the words read, — simply as words; (7) expression, — including the gaining of the thoughts and sentiments of the piece read, and the effective portrayal of the same to the listener.

Remark. — Matter having strong points may be more forcibly paragraphed by placing the figures at the heads of the divisions, without the curves, thus: —

"Disadvantages of intemperance: —

1. It causes disease.
2. It causes poverty.
3. It causes crime.
4. It causes general immorality and degradation."

6. *To enclose matter used as a correction, change, or explanation:* —

I was *at no time* before *in so much distress.* (I was never before so much distressed.)

It was *at the end* determined that we should make an attack *without the delay of an instant.* (It was finally determined that we should make an immediate attack.)

I expected to go (not "to have gone").

It would have been easy to do it (not "to have done it").

He is taller than I (not "me"; meaning, I *am*).

7. For enclosing references to previous matter, — much used in textbooks (which, see); as, (rule V., note *a*)*;* (p. 25, notes 3, 6, 8); (Chapt X., p. 4.)

Remark. — There are many variations of the uses of the "curves," illustrated above, but it is not deemed necessary to formulate them.

EXERCISES.

1. Pupils find examples of the use of parentheses in textbooks; read the paragraphs in which they occur, first, by reading the whole, then by omitting the part enclosed. Tell the reason for enclosing the parenthetical part. How does the voice tell to the ear what the "marks" show to the eye?

(Let this exercise be continued for a number of lessons, until the chief uses of these marks are seen.)

2. Find two examples from printed matter of the use of parentheses for "explanatory remarks."
3. Two for "side remarks."
4. Two for enclosing "illustrative marks," or signs.
5. Two to enclose "figures or letters of reference."
6. Two for matter used as "a correction, change, or explanation."
7. Two for enclosing "references to previous matter."
8. Make original examples of the above (1 — 7).

Write the following sentences and place the marks of parenthesis where required: —

"Upon this the dial-plate if we may credit the fable changed countenance with alarm."

"Thompson who survived Pope only four years made no attempt to enter the school of polished satire and wit."

"Patrick Henry the statesman whose speech we have now read was a Virginian."

"The simple personal pronouns are, — *I* plural *we* of the first person; *thou* plural *ye* or *you* of the second person; *he*, *she*, and *it* plural *they* of the third person."

"Why does moisture dew collect on the windows in winter?"

"If ever you should come to Modena,
Where among other relics you may see
Tassoni's bucket — but 'tis not the true one,
Stop at the palace of the Reggio gate."

"I had some occasion I forget what to step into the courtyard as I settled this account."

"If the *interrogative* is made the emphatic idea as when, the answer not being heard, the question is repeated the *rising* slide must be given."

"Her grandmamma who was a very grand grandmamma indeed looked slightly puzzled at Diana's question."

"But the verb has also as well as the noun changes of form to mark real differences of meaning."

"The inflection of a noun is called its declension." See above, 58, 68, 74, 75.

Et cætera and other things.

(The above exercise may be interestingly varied by requiring the pupils to bring in examples for each other to mark.)

COMPOSITION EXERCISE.

[Two boys, with notebooks, on a walk; to get material for a school composition.]

John's notes: —

Started at 7.30 A. M. Basket full of apples, doughnuts and cheese, and big piece of plum cake (what a good thing to have a big sister who makes plum cake — and don't hide it). Saw a man hoeing his garden; it looked nice. Next lot all weeds — house tumbling down — pigs in the road — "For sail" on the barn door — moral? Great elms — who planted them? A poultry yard — nicely fitted — happy family — What brain and labor does — Into the fields — farmers at work — boy whistling — talked with him about woodchucks and scarecrows — sat down to rest — swapped doughnuts with Tom — Tom says I'm a fool to take notes — he may be right — and he may not — Up the hill — saw one city and a dozen villages — one windmill — suggests mother's Johnny cakes — saw two breweries — suggest homes "for sail" — cursing, fighting — starving — prisons — poor-houses and graves unknown — Steam cars — quick travel great improvements — Down the hill — Noon lunch in shade of a hickory tree — spring of cool water — mosses and flowers — Good appetites. Huckleberries — filled the basket. On the home stretch — passed the "Poor farm" — good thing to care for the unfortunate. Asked a man for a ride, "No," — another man, "Yes" — Difference between the men — Home tired — good time. Shall be better for a week.

Tom's notes: —

——— ——— ——— ——— ———

Try a composition from the two series of notes.

METHODS IN DRAWING.[1]

BY MRS. MARY DANA HICKS.

Director of Prang's Normal Drawing Classes by Correspondence.

VI.

THE methods to be followed in the subject of Construction are those used in the elementary work — first, careful Form study from models and objects to gain ideas of their form and structure, then the expression of these ideas by drawing.

FREE-HAND AND INSTRUMENTAL WORK.

There are two kinds of work in Construction: free-hand and instrumental. Facility in making free-hand sketches for working-drawings is essential for every draughtsman who makes drawings for constructive purposes. In many cases, a free-hand drawing is all that is needed. In other cases, it is frequently necessary to make rapid drawings, free-hand, in shops or other places where instruments cannot be made available.

Careful instrumental drawing can be made, if necessary, when more time is at command, and in a place where instruments can be profitably used. For complicated machine drawing, or any careful work to scale, instruments are desirable and necessary.

CONSTRUCTIVE DRAWING.

A few simple exercises will now be given to show how Constructive Drawing is developed through the study of Models and Objects.

There are many names of Type Forms, Figures and Details, also terms of Position, Direction, Relation, Proportion and Dimension which are necessary in the study of Construction. A familiarity with these terms on the part of the student is assumed.

It will be necessary to fix firmly in the mind at the outset that Construction requires only *geometric views*, and that a geometric view requires but two dimensions. Hence, more than one geometric view is needed to give the form and its three dimensions — thus, one view may give the width from left to right, the width from front to back, and the shape of that view; but another view is needed which will give the height, and also the shape of the object in that view.

A geometric view shows an object under the simplest possible conditions. For such a view, the object is supposed to be placed directly in front of the eye in such a way that two dimensions only are visible; for example, a cube may be presented in such a way that the front face

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[1] Copyright, 1889, by Mary Dana Hicks.

alone — a square — is seen, with its two dimensions, height and width. Such a view is called a front view. In a similar way a top, or a bottom, or a side view may be obtained.

THE NEED OF TWO VIEWS.

Exercise 1. *Models required.* Sphere, hemisphere, cylinder.

Look at the sphere; what would you draw for a geometric view of the sphere as seen from below? Take the hemisphere; what would you draw for a geometric view of its base? Next, study the cylinder; what would you draw for a geometric view of its base?

Draw side by side, at the lower part of a sheet of paper, the three geometric views mentioned. You have three circles, which are the bottom views of the three solids. Show these three drawings to another person, explaining that they are the bottom views of three different solids, and ask the names of the solids. The reply would be, It is impossible to tell, as there are many solids, the bottom view of which is a circle — another view of each solid is necessary to make the drawings intelligible.

Study now the front view of such solid. Directly above the bottom view of the sphere, draw its front view — above the bottom view of the hemisphere, draw its front view — above the bottom view of the cylinder, draw its front view. Remember that each front view has the same width as the corresponding bottom view — the front view of the sphere being a circle — that of the hemisphere, a semi-circle — that of the cylinder, an oblong.

(The distance between any two views of a solid in a drawing should be sufficient to distinguish the views, but not so great as to separate them widely.)

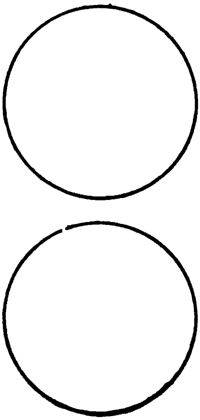

Fig. 1.

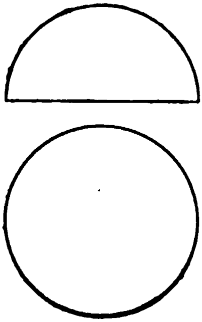

Fig. 2.

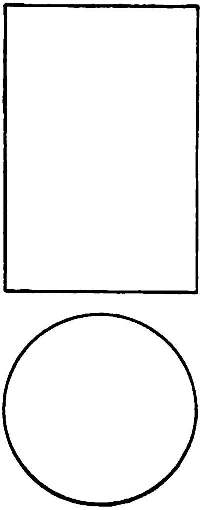

Fig. 3.

The facts of the form of each of the three solids are now expressed in two views, which taken together, show the three dimensions. The two views, Fig. 1, show that the solid is a sphere — the two views, Fig. 2, show a hemisphere — and the two views, Fig. 3, show a cylinder.

Exercise 2. *Models required.* Cylinder, square prism, oblong paper.

The models used should all have the same height and the same width from left to right. Study these models. On the upper part of a sheet of paper, draw the front view of each of the three models, first drawing for each an indefinite centre line (which may be simply a light line, or a dot and dash line), to extend some distance below the front view.

You have three oblongs exactly alike, and therefore not recognizable as belonging to any particular solid.

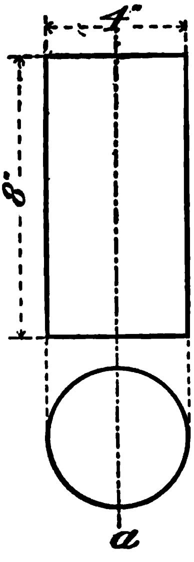

Fig. 4.

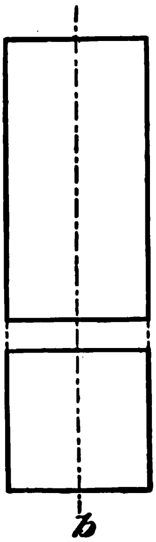

Fig. 5.

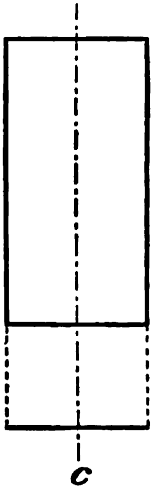

Fig. 6.

Below these front views draw the bottom views, first drawing either light or dotted vertical lines downward from the front views. These vertical lines will help you to keep the bottom views of the same width as the front views; such lines which transfer the width from one view to another, are called working lines. Having drawn the bottom views as in Figs. 4, 5, 6, you have drawn the facts of form of each model so that each can be easily recognized. If now to each you add the height, 8" (8 inches), and the width, 4" (4 inches), you have expressed the size as well as the form of the models.

Exercise 3. *Models required.* Three boxes, one square, one circular, one oblong.

The three boxes for this exercise should be of the same height and of the same width from left to right. On the lower half of a sheet of paper, draw the front view of each of the three boxes, drawing first a centre line (a dot and dash line) for each, extending indefinitely upward.

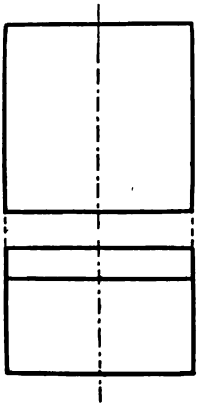

Fig. 7.

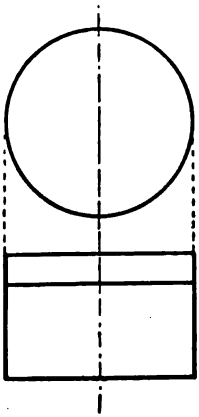

Fig. 8.

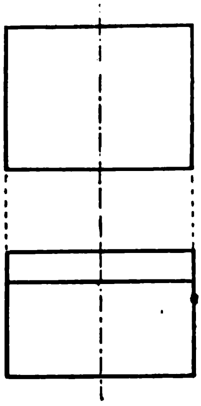

Fig. 9.

Extend working lines upward from each front view, and draw the top view of each box. Each box is now graphically described, as shown in Figs. 7, 8 and 9.

WORDS frequently confused in pronunciation and upon which special drill is recommended. (Arranged by the masters for use in the Providence schools.)

Through,
Thorough,
Thought,
Though,
Tough,
Trough,
Together,
To Gather,
Quit.
Quite,
Quiet,

Worm,
Warm,
How,
Now,
Know,
Stop,
Stoop,
Form,
From,
There,
Where,

Here,
Of,
Off,
For,
Saw,
Was,
Drop,
Droop,
Are,
Our,
Loose,

Lose,
Then,
When,
That,
What,
On,
No,
Felt,
Left.

METHODS IN GEOGRAPHY.[1]

(*Third Series.*)

III.

BY LARKIN DUNTON, LL. D., AND MISS L. T. MOSES.

NATURE LESSONS — THIRD YEAR.

The Wind.

THE observation of the velocity of the wind is to be studied still more in detail this year, and its movement in miles in a given time is to be roughly estimated. In other words, the relation of moving objects to the force of the wind is to be seen by the children. This can be done easily by comparing the movement of objects carried along by the wind with the movement of objects whose velocity is known.

Thus the child could walk two or three miles an hour, and run four or five miles an hour. Any bits of thistle-down, or other light substances that were carried along by the wind as fast as a child could walk, would show that the wind was moving two or three miles an hour; while, if the same things were carried along as fast as the child could run, they would show a wind of five miles an hour. A horse can trot from six to fifteen miles an hour, and leaves or papers that go along with a horse are carried from six to fifteen miles an hour by the wind. A train goes thirty miles an hour, and objects that the wind carries as fast as a train goes show that the wind is thirty miles an hour. A fast express train goes a mile a minute, or sixty miles an hour; and the very highest wind ever known would carry things as fast as an express train goes.

The children have been for a year watching and estimating the rate of movement of a boy walking or running, of a horse trotting, and of an ordinary train, as well as an express train; so that at this stage of the lesson, the mental picture of each day can be brought before the mind; and thus the relation between the velocity of the wind and that of the objects which it moves, as well as the nature and extent of the movement can be known.

The children, in pursuance of this, are asked to think of themselves as out of doors the day when they found things moved as fast as a boy

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[1] Copyright, 1837, by Larkin Dunton, and Miss L. T. Moses.

could walk, and tell just what things were moved by the wind. They tell that the leaves of the poplars moved, that the leaves of the other trees hardly moved at all, and that when they threw bits of down into the air, they were carried only a short distance and fell to the ground. In the same way they tell of the day when the wind moved things as fast as a fast runner could move, and say that then only the down and such light things were carried along.

Of the more rapid wind that carried paper, leaves, and dust, as fast as a horse trots, that blew their clothes, and made it easy for them to run along with it, they say that was a wind that made them feel well, that gave them good air, when the windows were opened for gymnastics; and they feel sure that they like a wind of fifteen miles an hour better than a slower one. But the children grow enthusiastic, when asked to remember the day when the wind carried things as fast as a train usually goes. They tell of the air full of dust and leaves, of bits of paper or cloth, of the way it wound the clothes on the lines, of the hats that were blown off, of the lady whose veil was blown up into the tree opposite, of the way the limbs of the trees swayed and creaked, of the roar as the gusts came along, and of the eddies of dust at the street corners. Oh! it was all rare fun! And the children tell how they ran and jumped, how they played they were leaves which the wind carried along, how they wanted to fly, so bright was the sun, and so gay was everything dancing about.

At last they tell of the day when there was no school, when the vessel was wrecked off Long Point, and the two men drowned. Their little faces grow sad, as they tell of the great waves beating upon the shore, and of the breakers off Long Point. They are then asked to look out of their windows, as they did that day, and tell what they saw. And they describe the rain, driving in from the sea and beating like hail on the windows, or driving nearly straight across them. They tell of the blinds that were blown off, of the branches twisted off the trees, of the old willow blown down across the road, of the twigs flying about, of the bird's nest with the dear little birds blown from the tree, of the screams of the parent birds, hardly heard above the blast; and they tell of the people running along side to the wind, and of the pelting rain wetting them through.

When the teacher speaks of umbrellas, the hands fly up and smiles come upon the faces of the children; for there is hardly one who did not see some amusing struggle of man or woman with an umbrella. The teacher had told the children before to watch whenever the wind blew and the rain beat so that there could be no school; and that they had watched well, was proved by their vivid descriptions of what they had seen. They had listened well, too, and had heard the thunder of the waves, the screeching of the lashing boughs, and the far-off wail of the wind, mingling with the shrieks of the chimney.

After this work is done, the children make a simple classification of the winds seen and pictured. They name the winds that move as fast as children do, gentle breezes. The teacher tells them that the poets sometimes call these gentle breezes, zephyrs. The winds that blow fifteen miles an hour are called stiff breezes; those moving thirty miles an hour are high winds, and those going sixty miles an hour are violent and dangerous gales. The teacher tells the children here that she wants them to notice, every morning, and tell her whether the wind is a gentle breeze, a stiff breeze, a high wind, or a dangerous gale.

This reminds the teacher that the children were to find out if it was ever perfectly still, so that there was actually no wind. They still differ on this point, and of course must watch more. They are told that when there is so little movement that they cannot tell whether the air moves at all, it is a calm. Cyclones are not to be mentioned this year, unless the section of the country is visited by them, and even then it is better not to terrify the children by dwelling on them and their effects.

This year, too, the children make careful observation to ascertain the relation of the direction of the wind, not only to heat and moisture, but also in relation to velocity and to frequency and duration, Thus they should know that our heaviest winds are usually from some point of the east, and that these winds are generally accompanied by storms. They should also ascertain that our prevailing winds are from the west. In order to find out this last fact, the teacher writes the words east and west on the board, and tells the children that they may put a mark after east every day when the wind is from the east, the north-east, or the south-east; and that they may put a mark after the word west every day when the wind is west, north-west, or south-west,

This year, also, the children are to watch the weather-vanes to find out how the wind changes from the east to the west in the clearing off of a storm; and by the end of the year they should know that a storm clears off permanently when the wind goes round through the south, and only temporarily when the wind backs in.

The relation of winds to the movements of the clouds, as indicated by the diverse movements of different layers of cloud, should be seen, too; and, if the opportunity offers, the children should see and infer three distinct regions, as is often indicated by a low layer moving to the west, a higher one moving slowly to the east, and an upper layer apparently perfectly still. In this case we have an east wind, a west wind, and an upper region of calm.

This year also the observations as to the continuance or duration of different winds should be begun. The question they were trying to settle as to the relative continuance of an east, a north-east, or a south-east storm, and the probable duration of fair weather indicated by a west, north-west or south-west wind should be settled, or brought into train for settlement by careful observation. The question of the possibility of a perfect calm is also agitated, and while the children still differ, the teacher inclines to think there is always a very little wind, even when it is so slow that nothing seems to move.

The children now review their conclusions of the previous year in relation to the east wind and rain; and their observations all go to show that an east wind is very likely to bring rain, while a west wind brings clear weather.

When the children are asked whether the wind has anything to do with other things than the rain, they feel sure it moves the clouds; and John thinks it is by moving the heavy clouds in from the sea that it produces the rain.

"How about the snow, children?"

"The wind gets up the snow, too, Miss Holt."

"How many think as Mary does?"

"I am glad you all agree; but I am sorry Mary said the wind 'gets up the snow.' Who will tell me what you think, but not in John's words?"

"That is much better, Will. I like 'the wind brings the rain and snow' better than John's expression. I suppose the wind brings the fog, too."

"No, Miss Holt, the wind drives away the fog. There is never any fog in a high wind. It seems to dry the fog up, or do something with it."

"Miss Holt, I do not feel so sure as Harry that there is no wind in a fog — no, I mean I do not feel sure that we never have a fog when the wind blows. Can't we watch till we are sure about it?"

The children all agree to watch as Jenny suggests, so that they may be sure what the wind has to do with the fog, if it has anything to do with it."

"Wouldn't it be strange, Miss Holt, if the wind brings the rain and the snow, and drives away the fog and the dew. I should think if it brought two kinds of wet, it would bring the other two. Why is it, Miss Holt?"

"We will find out whether it is true first, Lucy; and we will find out why it is true, when we are in the grammar school. We are finding out the truth about things now. By and by we will think more of the reasons."

"It seems to me, Miss Holt, that the wind is a busy fellow; he takes care of heat and cold, sunshine and clouds, rain and snow, and takes care that there is no dew and frost."

"Besides all that, he moves so many things about, and sails our boats, flies our kites, turns our mill wheels, makes great waves, and — and — "

"Who can tell anything else that this busy fellow does? Fred may."

"He makes us feel like running and even flying, Miss Holt."

"He makes great noises, roars and screams, and shrieks, Miss Holt," said Mary.

On the children being asked what else he did, Roy said that the hardest work must be to carry things away in his arms.

"More likely he kicks things along," said George. "At any rate he kicks up a dust, and pushes, and drives everything before him."

"But think, children, of any good he does just to you and me. If the day were hot and sultry, I know you could think. Good! I like to see all at work. Harry may tell."

"He brings us fresh air, and the fresh air makes us feel well and strong. I like to run with the wind. It's fun."

"I like to run against the wind," said sturdy Stephen, "for I can go on in spite of all his strength, and I like it."

"Have any of you ever noticed any other living things that you think like the wind?"

The children tell of the cats and dogs that seem by their actions to like the wind. If they live in the country they will tell of other domestic animals that appear to be affected pleasantly or otherwise by the wind.

The children are now allowed to tell what they are going to watch for. They, one and all, have several things.. One wants most to see the wind blowing three ways; so he is going to watch the clouds. Jenny is determined to know what the wind has to do with the fog. Will is going to watch the clearing off of storms, to see which way the wind changes from the east to the west. Nellie prefers to know what winds last longest.

The teacher thinks they have omitted to mention some very important things, and Fred says he is going to count the days the wind is east, and the days it is west, and that he is going to see each morning and afternoon whether there is a calm, a zephyr, a stiff breeze, a high wind, or a dangerous gale.

"Can't we have these words put on the board, too, Miss Holt, and make a mark under the one the wind tells us to?" asked Flora.

"It will be an excellent plan, Flora; see, I write them just here, and you children must make the marks every morning and every night."

The lesson closes by reading either Tennyson's "Sweet and Low," or George Macdonald's "The Wind."

PROMOTING GOOD DISCIPLINE.

BY RUFUS ALDRICH.

THE power of common opinion or popular sentiment is seen and felt in every school and every class. Every pupil patterns his or her conduct after the popular sentiment, to a greater or less degree, and obeys the common judgment, feeling its approval a satisfying reward, its condemnation an unbearable censure. When a pupil is corrected, if he can, returning to his seat, look into the faces of his companions and receive their sympathies, the act of the teacher has only excited indignation and does not reform. If, on the other hand, the scholars are with their teacher in their opinion of the offence and its just deserts, never by word, look, or sign will the offender allude to the correction visited upon him. How shall we gain this state of affairs in which the school is in favor of order, obedience, honesty and industry, and uses its influence as a school toward this end.

There are certain general principles of right and wrong to which the few good pupils, at least, will agree, and by careful, private talks, the most influential can be persuaded to uphold the right. When these are gained the others will follow. Illustrations from familiar history might be commented upon and the habits of character which contributed to their success brought to special notice. Children delight to look up if they can have a picture drawn worthy their admiration. Another help is the right use of encouraging words and words of reproof. Ruskin says, "The love of praise is the strongest motive for human exertion." Both praise and censure must be used judiciously. The teacher's own character and life is of vast importance.

CHERRY AND STRAWBERRY.

Said Black Cherry
To Strawberry:
"Your cheeks with crimson glow;
There 's no doubt you 're very pretty,
But I have a heart, you know!"

Said Strawberry
To Black Cherry:
"That fact, my dear, is known,
But a heart 's not much to boast of
When it 's nothing but a stone." — *Selected.*

EDITORIAL.

PRAISE goes a good ways with teachers as well as with pupils.

HAVE you planned to visit the library often this coming school year?

WANTED, in the United States, 300,000 common sense teachers for active service in 1890.

IT is an excellent plan to put the attendance upon the blackboard at the beginning of each session.

HAPPY is that school which is animated with at least *one* central, all-absorbing idea. Happy the teacher or principal who is called a "crank" on something.

THE learning of wordy definitions by young children eight years of age, and the parsing of written examinations thereon, has not ceased even in Massachusetts. How much longer will such cruelty to children be tolerated? Some one is responsible.

TEACH the children to love their homes and to help make them pleasant and attractive. The poet Whittier truly says: "No better proof of real gain can be found than the creation of pleasant homes for the comfort of age and the happiness of youth."

IN some schools those children who have not been tardy, absent or dismissed during the month, are dismissed the last Friday afternoon in the month half an hour earlier than the others. The effect of this course in a little while is to increase the attendance. It is worth a trial in other schools.

IN Springfield, Somerville, and Quincy, writing with ink is commenced in the primary schools. The results are most satisfactory. In all primary schools, writing in good position with pencils can be secured by some patient effort from the teacher. The earlier good writing habits are formed the better. Good free movement and correct pencil-holding are more important in the first school years than beautiful forms. Immediate results are not always the best.

We recently visited a room in the lower grade of a grammar school when the substitute was interesting and holding the class with a dictation and spelling lesson written on the board. We noticed such live sentences as these: "Miss P., our teacher, has gone away to a funeral." "I am sorry." "She will come back tomorrow." "Mr. White, the principal of the school, has just left the room." "Today is Wednesday." "We shall study arithmetic, geography and spelling today." "I will never be a liar." "October 23, 1889."

There are several classes of teachers, usually found in any community. There are those teachers who see at once a mountain of work in any change proposed by superintendent or principal. They lack courage. There is another class who oppose change because they are so well satisfied with the present and with their own success. They lack humility. A third class is always ready to take up any new method which presents itself just for the sake of something novel and different. These teachers lack stability. A fourth class is anxious to improve, ready to learn, always trying to do better and better work, glad to examine new ways and *adapt* them to changed circumstances. This class contains the larger number of meritorious teachers, and its members are the best paid in the community.

Teachers' institutes are doubtless valuable, and helpful to teachers. It is probable, however, that their greatest benefit is in the *social* character of the meeting rather than in the papers read.

These are desirable and helpful, but it will be found that the meetings prove far more interesting and profitable when live methods and questions are generally discussed. Has it ever been tried, to set aside at least one hour for questions and answers, and general discussion on any or all subjects of interest, or difficulties met with in practical work? Extemporaneous advice from practical teachers on *practical* subjects, would be worth something. New books might be mentioned by one, some useful and practical appliances by another, and methods by still another. That hour would be found a real mine of wealth for the teacher, and rob these meetings of the strict formality which now too often attends them.

CHATS WITH TEACHERS.

CONDUCTED BY SEAVER CRAWFORD.

The object of this department is to help teachers in their daily work. It will be opened for the discussion and solution of difficulties frequently met in the different grades of the primary and grammar schools. Questions and suggestions should be sent to SEAVER CRAWFORD, care EASTERN EDUCATIONAL BUREAU.

WAITING ON PARENTS.

If a parent comes to school about 10 o'clock, and asks me to write a recommendation for his boy, or to make out a discharge card, should I stop my work with the class to do so, or ask the parent to wait till recess time? M. L. A.

Under ordinary circumstances, you ought to wait upon the parent at once. Remember his time is valuable. It has been quite an effort for him to come; now to have to wait half an hour will seem very annoying, and quite unnecessary. You are a public servant, and when one of your patrons comes once in ten years only for a little favor, you should attend to his request as quickly as possible and send him away happy and a stronger patron than ever of the public school.

GOOD BOOKS ON NUMBERS.

Can you recommend any books on Numbers which would help a young primary teacher? ALICE S. K.

We handed this question to Miss N., a primary teacher of long experience and great success. This is her reply: —

"I recommend these from my own experience: Methods of Teaching Arithmetic in Primary Schools, Dunton. Wentworth & Reed's Primary Arithmetic. Oral Lessons in Numbers, White. Numbers Illustrated, Rickoff & Davis."

CARE OF CHILDREN.

Are children under the care of the teacher after they leave the schoolhouse? PRINCIPAL.

The authority of the teacher and parent is coördinate until the pupils reach home. The teacher should be expected to have a care over the children to and from school, and the law will doubtless sustain him in prescribing and enforcing reasonable rules and requirements for conduct during this transition period. If good behavior on the street is secured, the discipline in school will be much easier, and more efficient. Yet, every teacher should bear in mind in all cases of this nature, that it is better not to assert full authority to the extent of his legal rights. It is better to stop a little short rather than to overstep a trifle. It is often better to secure good conduct in going to and returning from school by a flank movement or by indirect means, rather than by the assertion of authority that possibly may be regarded as doubtful.

TEACHING BY GROUPS,

I have a graded primary school of about forty pupils, first year work. Should I teach them in groups, or all together? A BEGINNER.

Probably your forty children have many different degrees of intellectual ability. As some will learn much more rapidly than others, and are now more mature, in a few weeks there will be found naturally a number of sections of varying ability. No teacher can help this state of things. The principle of grouping has been recognized in grammar grades for years, where the groups are called first and second sections. The model grouping method is simply applying this idea in a practical way to the conditions found in the primary schools, in which smaller groups and more of them are needed. Do not attempt to make these groups contain any exact number of pupils, as ten for instance. Regulate the number by the conditions of the class.

VISITING SCHOOLS.

Are teachers benefited by visiting schools? I am frequently requested to give permission to close schools for this purpose. SCHOOL COMMITTEEMAN.

We congratulate you on having such teachers. May their numbers increase in your town. It shows that you have a set of wide-awake, progressive teachers. Such teachers are the most earnest to visit. There is no better way to improve the teaching than by visiting the best teachers in other schools. Poor teachers are helped in this way who cannot be reached in other ways. Teachers are usually conscientious in making the visits. But it is wise to ask them all to report at a teachers' meeting what they saw.

HAPPY HOURS.

NOVEMBER'S PARTY.

NOVEMBER gave a party,
The leaves by hundreds came, —
The Chestnuts, Oaks, and Maples,
And leaves of every name.
The sunshine spread a carpet,
And everything was grand;
Miss Weather led the dancing,
Professor Wind the band.

The Chestnuts came in yellow;
The Oaks in crimson drest,
The lovely Misses Maple
In scarlet looked their best;
All balanced to their partners,
And gayly fluttered by,
The sight was like a rainbow
New-fallen from the sky.

Then, in the rusty hollows,
At hide-and-seek they played;
The party closed at sundown,
And everybody stayed.
Professor Wind played louder,
They flew along the ground,
And there the party ended
In " hands across, all round." — *Selected.*

FIRST SPEAKING DAY AT SCHOOL.

I WISH today that I could be
My grandma's old grey cat!
I 'spose you think it very strange
That I should talk like that!
But this is speaking day at school,
And I 've a piece to say —
It 's 'bout a little butterfly,
That hurt its wing some way.

I fear that I 'll forget the words,
Just when my piece is named,
And standing there before that crowd,
I 'll feel so much ashamed!
For teacher 's asked her friends to come
To visit us. Maybe
She 's going to have, what folks call
" A coffee," or " a tea."

. . . . . .

I spoke my piece, and did not miss,
Nor was I much afraid.
The people clapped their hands for me,
And then the music played.
Papa looked glad, mamma all smiles,
My heart went pit-a-pat.
And now I 'm glad enough I 'm not
My grandma's old grey cat!

O I forgot to let you know,
They don't have things to eat,
When folks go visiting a school —
They just sit in a seat. — *Susan Teall Perry.*

THE WINDS.

A Recitation for Seven Children.

THE NORTH WIND.

I AM the Wind of the North,
  Boreas, bold and cold!
With snow-banners white I come forth
  From the ice-fields far and old.
I roar in the wintry wood,
  I crack the loftiest trees,
But I do my share of good
  As I sweep the lands and seas.
For I bring you strength and life,
  And I purify the air,
And after the storm and the strife
  I leave the blue sky fair.

THE SOUTH WIND.

I am the Wind of the South,
  And soft and still I pass;
My wings are warm, and the breath of my mouth
  Is sweet in the fields of grass.
How their glossy billows roll
  Like the waves of an emerald sea,
As away over hillside and knoll
  The blossoms dance with me.
I toss the children's hair,
  And kiss their faces brown,
And the summer world is sweet and fair
  Where I wander up and down.

THE EAST WIND.

I am the Wind of the East,
  I carry the clouds and the rain,
And I bring a blessing for man and beast
  When I wash the arid plain.
After the drouth and the heat,
  You will watch with anxious eye
For the banners gray of my cloudy fleet
  To rise in the burning sky.

THE WEST WIND.

I am the Wind of the West.
  The sunset land is fair,
A realm of quiet and dreams and rest,
  And the West Wind's home is there.
The clouds before me fly,
  And the blue deeps open clear.
I bring for the day a pleasant sky,
  And the hay-makers gay good cheer.

THE NIGHT WIND.

I am the Night Wind loud,
  I come from the far Northwest.
My garment is the cloud,
  And I wake you from your rest.
I call to the farthest hills
  And the echoing cliffs make moan,
When my voice the shuddering forest fills
  And the branches creak and groan.

THE DESERT WIND.

I am the Desert Wind,
  I walk with burning feet —
And the fainting caravan's ranks are thinned
  Where my fiery pulses beat.
But I cross the cooling seas,
  And behold, on the northern lea,
I am only a warm and gentle breeze
  From over the southern sea.

THE CYCLONE.

I am the Cyclone dark and dread;
  My path is ruin. my life is brief.
I crush the city beneath my tread,
  And I lift its towers as I lift a leaf.
I wrench the rocks from their bases deep,
  And the trees of the wood go down at my breath.
But all in a moment I sink to sleep,
  And the strength of the Titan goes out in death.

— *Anna Boynton Averill in Portland Transcript.*

SEMI-ANNUAL EXAMINATION QUESTIONS.

Given in one of the Schools of Boston.

LANGUAGE. — THIRD YEAR IN GRAMMAR DEPARTMENT.

1. Give a rule for using capitals and illustrate it.
2. Use *better* and *best* correctly in a sentence.
3. Copy the following sentences and fill the blanks with the correct form of *write*: —
   a. Mary has ——— two letters.
   b. John ——— his letter yesterday.
   c. ——— as you would speak.
   d. The address is ——— on the card.
4. Unite the following sentences by *and* or *but*: —
   a. Washington was a great man. Washington was a good man.
   b. I went to church. It was very cold.
   c. I saw a man. The man was going to Philadelphia.
5. Write your teacher a letter about your cousin, your home, or your school.

ARITHMETIC. — Second Year in Grammar Department.

1. Add four thousand, three hundred two; three hundred thousand, five hundred nine; fourteen; seven thousand, eight hundred, nineteen; 68 thousand, nine hundred.

2. Add 46392, 785, 6789, 10031, 17567, 83210, 876 and 513.

3. Find the difference between eight hundred fifteen, and 34 ten-thousandths; and nine thousand 3 hundred six, and seventeen ten-thousandths.

4. A coal dealer paid $1065.60 for 240 tons of coal; find price per ton.

5. The President of the United States receives $50,000 annual salary: how much is that a day if there are 365 days in the year?

6. The dividend is $46.865; the divisor is .036; find quotient.

7. A milkman sold 14 cans of milk, each containing 10$\frac{1}{2}$ gals. for 4c. a pint; how much did he receive?

8. Mrs. Jones went to R. H. White's and bought 3$\frac{1}{2}$ yds. of ribbon at 22c. per yard; 18 handkerchiefs at $\frac{1}{4}$ of a dollar each; 23 yds. carpeting at $1.25 per yard; 37 yds. sheeting at 13c. per yard; and three cloaks at $7.375 each. What was the amount of the bill?

9. I buy a house for $35,425, and pay all but $8768; how much do I pay?

ARITHMETIC. — Third Year Grammar Department.

1. Add: 19.064, 800.36, 15.064, 40392.6378, 974.583 and 1.016.
2. Add: 346.20, 24.15, 625.13, 84.00, 276.05, .85, 27.24, 3.65.
3. How much is the following bill: —
   45 bbls. flour at $5.60.
   32 bags flour at $2.75.
   29 bags bran at 90c.
   24 bags oat meal at $1.12.
   28 bags wheat meal at $1.36.
4. $\frac{1}{4}+\frac{1}{2}+\frac{1}{6}=$?
5. $\frac{5}{7}-\frac{3}{11}=$?
6. If $\frac{5}{8}$ of a house is worth $1200, what is the whole of it worth?
7. Find the least common multiple of 3, 4, 6 and 8.
8. A man owing 7\frac{17}{20}$ paid at one time 2\frac{3}{4}$, and at another 3\frac{2}{5}$; how much does he still owe?
9. Write out some direction for pointing off in multiplication of decimals.
10. What is the difference between a decimal and a common fraction?

SPELLING. — First Year in Grammar Department.

1. Twice ten is a score.
2. Wharves are where ships unload.
3. Shawl, script, fetch.
4. I heard loud shrieks.
5. Please to take the chairs into the kitchen.
6. Is the teacup in the saucer?
7. Mother, can we play in the parlor?
8. There are in the cupboard raisins, oranges, pears and chestnuts.
9. The ship's deck.
10. Tuesday and Saturday.

SPELLING. — SECOND YEAR IN GRAMMAR DEPARTMENT.

1. The payment of a debt.
2. You should be guided by wise precepts.
3. Such conduct will displease your parents.
4. A mustard poultice was put on his shoulder.
5. Slyly, style, rely, device.
6. Do you despise a base scoundrel?
7. Where are Worcester, Camqridge, Lowell, Chelsea, and Brookline?
8. Massachusetts is one of the most populous states in the Union.
9. The Connecticut River.
10. What part of the state is a peninsula?

ARITHMETIC.

1. The product of three factors is $19\frac{1}{2}$, and two of them are $\frac{4}{9}$ and $\frac{5}{8}$; what is the other?

2. Divide .5 of 1.75 by .25 of $17\frac{1}{2}$.

3. A person owned $\frac{5}{8}$ of a mine, and sold $\frac{3}{5}$ of his interest for $1,710; find the value of the entire mine.

4. A man, owning $\frac{4}{5}$ of a bank, sold 35 per cent. of his share; what per cent. of the whole was left?

5. A's property is assessed at $6,750, and B's at $13,550. A's tax is $55.35; how much is B's?

6. What decimal fraction is equal to $7\frac{4}{5}$?

7. How many linear yards of carpeting $1\frac{1}{2}$ yards wide will cover a floor 18 feet square?

8. When snow is uniformly 6 inches deep, how many cubic feet are there in one acre of land?

9. What is the square root of 23804641?

10. If 5 be added to each term of the fraction $\frac{5}{3}$, by what number will its value be diminished?

A BASKET OF CHIPS.

NORTH DAKOTA is the first state to arrange for a state system of manual training.

SEVENTEEN states allow women to vote for school committee and to hold that office.

THERE is a good deal of interesting history in the September and October numbers of the *New England Magazine*, now under the editorial management of Dr. E. E. Hale and Edwin D. Mead.

SUPERINTENDENT HOWLAND of Chicago, delivered September 21st, his tenth inaugural to an audience that filled Music Hall from top to bottom. This has come to be the great educational event of the year. This year his subject was "The Superintendent."

Mayor Hart, of Boston, has presented a large and beautiful flag of our country to the Mather School, Meeting House Hill, Dorchester, Mr. Edward Southworth, Master. Flag-poles are talked of now for all grammar schools. The pupils in the Sherwin School have purchased a flag for their school.

In a new educational enterprise just inaugurated in England, the attempt will be made to have a *modern* school in the fullest sense of the word. The study of English will hold the first place; French and German will be compulsory, and Latin and Greek optional subjects. Each pupil will have manual training in some form, whether it be cookery, gardening, or some handicraft.

Superintendent John Jasper of the New York City public schools has received a check for $3000, which is to provide for the college expenses of twelve young men for the year. The check came from a gentleman who last year called upon Mr. Jasper and expressed his desire to furnish aid in this manner to boys who desired to go through college, but whose parents had not the means to permit them.

The English special preparatory school, which lays itself out for winning entrance scholarships, dates from the public school commission, and it is in these establishments that the cramming process has reached its climax. A tutor in one of them recently wrote to his former chief as follows: "We have been marvellously successful — already over a dozen scholarships this year; but the more I see of the system, the less I like it. For masters and boys alike it is a perpetual drive, the ruin of all free play of mind, temper or character. I feel myself fast ceasing to be a master, and turning into a slave-driver."

BOOK NOTICES.

Wentworth's Primary Arithmetic. By G. A. Wentworth, A. M., and E. M. Reed. Boston: Ginn & Co. Pp. 220.

This Arithmetic, prepared by Mr. G. A. Wentworth, author of the well-known mathematical series bearing his name, and Miss E. M. Reed, Principal of the Springfield, Mass., Normal Training School, begins and carries forward the teaching of numbers simply and naturally. By means of pictures of familiar objects the pupil is enabled to get a full perception of the value of numbers, and to recognize their various combinations and separations. He is thus not only trained to a habit of distinct, attentive, and accurate observation, but also led by easy and well-defined steps to the more abstract ideas of numbers and their relations. The progressive teacher will find the book especially helpful and suggestive. The objective treatment of fractional numbers; the simultaneous teaching of integral numbers and fractions; the early development of the ideas of length, area, and capacity; the numerous review exercises and pages of slate-work; and the objective teaching of United States money, decimals, and percentage are features which can be highly commended.

Seen through childhood's eyes, the book must be intensely real. Its pages present pictures of the objects of daily sight and touch; and make them the means of the child's instruction and mental growth. The ingenuity of the questions must prove a source of perennial delight to the young student. In brief, Wentworth's Primary Arithmetic is a complete and carefully designed pupils' book, combining the profoundest philosophy with the most intelligent professional skill, and issued in the best and handsomest mechanical style.

A First Book in American History. With special reference to the Lives and Deeds of Great Americans. By Edward Eggleston. New York: D. Appleton & Co. Pp. 203. Cloth.

The child in beginning the study of history is the most interested in persons and what they have done. In preparing this book Mr. Eggleston has indeed given proof of his knowledge of child nature. The book is very attractive and is made up of history as developed by the different men who have made the country what it is. The book is well made. The illustrations are numerous, and the picture-maps are a unique feature, which will be appreciated. The last chapter entitled, "How the United States became larger," is, though brief, quite accurate, and through an admirable arrangement of maps showing the different additions to our territory, is remarkably well adapted to the purpose for which it is intended. It has many excellent qualities, and will doubtless prove as popular and have as wide a sale as the author's larger history, which is saying as much as could be said of any book.

The Franklin Square Song Collection. No. 6. Devoted to School and Home. New York: Harper and Brothers. Pp. 184. Paper, price 50 cents; Boards, price 60 cents; Cloth, price $1.00.

We are happy to have this opportunity of giving to our readers a notice of a splendid new book of songs for the schoolroom. It is not often that a new collection of songs appears which can unreservedly be recommended as worthy of introduction into any school. The Harpers' Franklin Square Collections have been long, well, and favorably known, but we believe there is yet a large field of usefulness which they have not entered.

The plan of printing among the songs and hymns brief histories of the origin of some of the oldest and the most popular hymns, adds very much to the value of these books.

The Essentials of Method. A Discussion of the Essential Form of Right Methods in Teaching. By Charles De Garmo, Ph. D. (Halle), Professor of Modern Languages, Illinois State Normal University, Normal, Ill. Boston: D. C. Heath & Co. Cloth. Pp. 119.

In this book Professor De Garmo has endeavored to show the proper methods of teaching. He has divided the theories of teaching into two classes. One class he compares to gardening, while the other class is, in his estimation, more nearly like architectural designing. He has bent his efforts toward the giving of the best manner of building up the mind of the pupil. It is a capital work.

National Kindergarten Songs and Plays. Written and compiled by Mrs. Louise Pollock, Principal of Kindergarten Normal Institute, Washington, D. C. Boston: Henry A. Young & Co. Pp. 77. Half cloth. Price, 50 cents.

These songs, while not all new, are excellent ones, and will be well received by the little ones in the kindergarten. They are divided into nine heads, among which are Opening and Closing Songs, Songs for Marching, Gymnastic Songs, Songs and Plays illustrating nature, and others equally attractive.

[illegible]

COMMON SCHOOL EDUCATION,

DEVOTED TO THE ART OF INSTRUCTION.

VOL. III. DECEMBER, 1889. No. 10.

GEORGE NEVER *CAN* LEARN ARITHMETIC.

BY ROGER RICHARDSON.

"THERE is no use talking, George never can learn arithmetic. He is just like me, and I never could tell the difference between the multiplication table and a Bengal tiger. The sight of either always frightened me out of my wits. My teacher flogged me a score of times, but it did me no good. George has tried it in three schools and he can make nothing of it. I want you to let him go on arithmetic. I don't care whether he ever learns it or not. He will get along. I never have found any need of it myself."

"Well, Mr. Jones, if you will leave that to me, I think George and I will have no difficulty concerning arithmetic. If he makes any complaint about it, please let me know."

"Well, you won't succeed, and you might as well give it up and let him spend his time on something else that he can learn. I don't believe in forcing every boy to study the same things whether he has any ability for it or not; but if you want to try it, I will give you a chance, though I give you fair warning that this time you won't succeed."

The above conversation took place on the first Monday in September between the master of a city school and one of the leading citizens of the town. George Jones was a bright, blue-eyed boy, with light hair and fair face, evidently his mother's boy, for his father had black hair, black eyes, and a dark skin.

The boy was assigned to a class of bright boys about his own age and the teacher was made to understand thoroughly all the points of the case. The only particular directions which the master gave concerning George were that no task should be given him at the outset which he could not perform, and that he should be encouraged for everything that he did correctly.

After two or three weeks the master met George and talked with him about his studies; at length he said, "Well, have you given up arithmetic yet?"

"Oh, no, sir; and I do n't intend to."

"Indeed, but I thought you did not like arithmetic. I supposed you would have given it up by this time."

"Oh, I like it first-rate. I did n't know it was so easy. I have never really tried it before. I guess I gave up before I got into it. It is just fun to get out the examples. We are trying races now to see who will do the most in the shortest time and get them all right. Twice last week I beat John Balsh who was at the head of the class last term."

After George had once got started and saw what arithmetic was for, and that by advancing step by step there was nothing which he could not comprehend, he enjoyed it as much as anything in the school.

At the end of the year his report showed him to be far above the average of the class, and five years later when he entered college he took the first prize for excellence in mathematics.

Mr. Jones always contended that it could n't be so; that there was some monkeying about it; that George was just like himself, and he never could learn arithmetic, anyway. Yet, that same Mr. Jones had for years carried on a very large insurance business which required constant exercise in arithmetical calculations in which he was always entirely successful.

If for young children the puzzles should be omitted and the teacher would be content to assign simple problems, with the intent that each pupil should acquire facility in performing the necessary operations, and would leave puzzles, enigmas, compound proportions, duodecimals and alligations alternate for a later period, confining the work to percentage, simple interest, profit and loss, analysis and square root, he will find but very few boys if any, in spite of their father's scepticism, who will not succeed in arithmetic, and what is true of this study is equally true of any other.

There are boys whose mothers will tell you that they can never commit anything to memory, and therefore must be excused from the study of history. There are others who never can get a proposition in geometry right if the letters should happen to get changed. Many a boy likes to study about water-wheels, hydraulic pumps, and electrical machines, but can make neither head nor tail of chemistry.

Now if every poor speller is to be excused from spelling, and every son of Mr. Jones from arithmetic, because "he is just like his father," and every mother's pet must not be put into history because he has no memory, one might as well lock the schoolhouse doors.

The fact however remains that if the teachers will instruct with due reference to the principles of psychology and pedagogy, with rare exceptions every boy may become a passably good speller, reader, and singer, and may acquire reasonable facility in the principles and practices of arithmetic, and the facts and reasonings of history, and may succeed at least tolerably well in every study of the curriculum.

FORM AND COLOR IN THE KINDERGARTEN.

BY MAY MACKINTOSH.

"FORM! Form! What is all this talk about teaching of Form in the schools of today? What use is it? Will not children learn all the facts of form necessary to be known, *outside* of our schoolrooms?"

Well, let us see. What was the origin of all form? so far at least as our earth-born eyes may distinguish it? Let us go back in reverent imagination to those countless ages long past, when "the earth was *without form* and void," and "the Spirit of God moved upon the face of the waters!" Let us trace with the geologist and the palæontologist the footprints, nay, rather the *handiwork* of the Creator of all Form, both inanimate and endowed with life. And then when we have learned of the periods of time necessary to bring these innumerable forms to their present stage of perfection, let us decide whether the results of such long-continued work, by such a Worker, are not worth all the intelligent study which we can bring to bear upon them.

"But," you will say, "I did not understand Form Study to include Geology, Crystallography, Zoölogy, Botany, and the rest."

Perhaps not; nor does it *include* them; it is only basal,—that foundation without which not one of the natural sciences could exist. Just consider for a moment. Strike everything relating to Form out of your consciousness, as far as you may, and try to realize what would be left. If your philosophy is that of the idealist you will claim a much larger residuum than if you belong to the ranks of the extreme sensationalists; but in any case you will feel mentally poverty-stricken—bankrupt in conceptions of the external world.

This imagination of a complete negation of Form will best teach us its value in mental development.

But I think I hear some one say, "The value of Form-teaching *may* be very great; but how is it possible to make an adequate series of forms suited to the limited time we can hope to retain our children, when the forms of Nature and Art are simply innumerable."

Froebel encountered this difficulty before us, and great was his joy when, by his unaided Nature-studies, and perhaps, most of all, by his lessons from Professor Weiss, of Berlin, in mineralogy and crystallography, he grasped the truth that *all* forms were modifications of a very few fundamental ones.

Indeed, we *can* conceive of all form as primarily derived from the sphere; but for greater clearness of perception, and subsequent conception, Froebel named *three* typical forms, from which all others originated. These were, —

The Sphere; The Cube; and The Cylinder.

Now as you go home each day, bear this rude method of classification with you, and try how many spherical, cubical, or cylindrical objects you can see, always remembering that "The type is indicated, but never realized."

While we, in our peas-work, cardboard modelling, and clay-work, make other solids than these, such as the ellipsoids (or prolate and oblate spheroids, as they are sometimes termed), ovoid, cone, conoid, pyramids, prisms, and all the polygonal solids, I do not think that there is any reason to believe that *Froebel* himself wished the little children of kindergarten age to recognize more than his three typical solids, their halves, and, in some cases, their quarters, and their derived planes and lines, with the exception of the one very common secondary solid, the oblong parallelopiped, or "brick."

At any rate, I would not begin with a greater variety; and you will find these four solids, divided in different ways, and their planes, the Circle, Square, and Oblong, almost inexhaustible in their suggestions.

Let us see how this material for study is divided amongst the several Gifts and Occupations.

For the Sphere we have the first and second Gifts; second Gift beads, and the Occupation, Clay. In the occupation, we can make any section at pleasure, so finding the embodied plane, — the Circle, which may be again divided and sub-divided. We use Colored Cardboard representations of circles, semicircles, and quadrants in our kindergarten, as a logical following out of Froebel's idea, although he did not assign a special place for such a Gift. Then comes the circular folding paper, for folding and cutting; circular sewing, circular drawing and the Gift of metal rings and half-rings of three diameters; and Mrs. Kraus-Boelte's Thread-Game. So that it will be seen that there is great variety in the means used for the teaching of spherical and circular form.

Similarly for the Cube, we have the second Gift, the third, or two-inch cube composed of eight one-inch ones, the exterior appearance of the fourth and sixth Gifts, the fifth Gift, a three-inch cube composed of twenty-seven one-inch cubes, six of which are sub-divided (into halves, or quarters), and the occupations of Peas-work, Cardboard Modelling, and Clay. Then for the derived planes, — the Square, and its divisions, the Oblong and Right Isosceles Triangle, we have the thin wooden tablets, the four-inch square folding paper, the representation of square, oblong, and in a lesser degree, the triangle in Weaving. Sticks of lengths from one to five inches, will give us the embodied line, — the edge of the solid, or the boundary of the plane. So will the Slats, Sewing, Drawing, and Intertwining, though this last is less commonly used.

For the Cylinder we have less ample preparation, but as from the nature of this form, which unites in itself many of the qualities of both Sphere and Cube, it is already partially familiar to us, such extended material is unnecessary. The horizontal plane of the Cylinder is of course the well-known Circle, and its vertical section gives us either a square or oblong plane, according to its proportions.

That very common form, the oblong parallelopiped, or "brick" is given to us as it were incidentally in the fourth Gift and continued in the sixth with divisions into halves in two directions; and of course its allied planes and lines may be illustrated with the material before mentioned.

But I have not yet mentioned the embodied *point.* For it we have lentils, or any small seed; or shell; Pricking; Dotting with colored pencil; tile-work.

Still there remain the equilateral, right scalene, and obtuse isosceles, triangular tablets to be accounted for. In default of an Equilateral Triangular Prism or Pyramid, we must derive our Equilateral Triangle from the Circle, casting off the least possible amount of waste necessary to the formation of a three-sided figure, and obtaining the type of *perfect* triangular form as the square is of the rectangular, and the circle of the more or less curvilinear planes.

When we have obtained our equilateral, there is of course no difficulty in obtaining from it the obtuse isosceles and the right scalene triangles by division and sub-division.

Now all this minutiæ of description may seem tedious and unnecessary; but I hope to show before this series of papers is ended that this is *Froebel's embodied thought*, and not a mere mass of disorganized material.

The second head of my subject, on which I have not yet touched, is that of Color — Color, — first born when the word went forth, "Let there be Light!" And as we did before with Form, let us imagine for a moment the complete absence of all differences in color, or tones of color, and note the comparative difficulty of distinguishing objects by their form alone. As a slight and inadequate example of my meaning, try which you can distinguish at the greater distance, or see most details of when near by, — an oil painting of strongly contrasted colors, or the clearest photograph, pencil-drawing, engraving, or etching, procurable. In other words, which conception has become a part of your mental furniture with the least assistance of your own faculties?

Since we must in every way endeavor to lessen our claims on the constrained attention of the child, so much needed, while so easily wearied, does not the result of this experiment furnish us with a valid reason for gratifying the natural love of color in every child, in his earlier years at least? And we must first gratify the existing unformed, crude taste, before we attempt to educate it up to a delight in delicate combinations of color. It is as much a mistake to expect too precocious development in this direction, as it would be to allow the child to rest content with a combination of standard blue and green, scarlet and pink, or atrocities of a similar nature. Since the childhood of the individual resembles the childhood of the race, look for guidance at the colors chosen and worn with a certain picturesque fitness by savage and semi-civilized nations. Here and there you will indeed meet with exquisite taste in a very little child, but it is the exception proving the rule.

So, in the kindergarten we give the primary colors with black and white (of pigments, not the primary colors of light), then the secondaries, with pink and light blue, which are always soon recognized by even little children. I do not consider drill on the tertiaries very needful, as the children meet with them infrequently, and the mother's *olive* dress, or the *russet* apple, fixes the name of the color quite sufficiently. As to citrine, I have never made its acquaintance under that name, outside of the schoolroom!

What I *do* regard of much importance is that the children shall be able to group together colors by *families*, — all the reds; the blues; the purples; the greens; and to understand the difference btweeen *tints* and *shades*. *I would not attempt to give the ever-changing fashionable names of these tints and shades.* Those who take special interest in the matter will learn them for themselves, and the others have all the essentials already.

Neither would I attempt to define and work out the technical meaning of a *hue*. In ordinary parlance it is usually equal to "color," and it is best to give the children the broad facts of color without unnecessary formalism.

We have now looked at the claims of Form and of Color in turn, and separately; and if you have acknowledged the value of each alone, you will be the more ready to see the worth of their combination in the majority of Froebel's materials.

Our form-lesson is, incidentally, a training in color, while our color-lesson always takes *shape* in various ways. And this is not all, for in other talks I must tell you of the application of these very same materials to Number-training, stories of Nature and Social Life, and consequent development of the *social* feelings and virtues; to say nothing of the manual dexterity acquired by the constant handling of these fairy aids to education. Good fairies indeed, they have often proved to the restless child who is naughty because he has "nothing to do"!

And at the end of Mrs. K's lesson we too, will see what our hands can do with the same materials, and so learn how best to lead our children to victory over all difficulties.

METHODS IN GEOGRAPHY.[1]

(*Third Series.*)

IV.

BY LARKIN DUNTON, LL. D., AND MISS L. T. MOSES.

NATURE LESSONS — THIRD YEAR.

The Heavenly Bodies. — The Sun.

THE exercises for making the children familiar with positions of objects in the heavens should precede the study of any particular heavenly body. This year the pupils should be able to estimate the half, quarter, and third of the distance between any point on the horizon and the zenith; and also between any two points on the horizon.

In the lessons on the sun this year, it is desirable to continue the observation of its form, color, size, position, and movement, with considerable accuracy. At the end of the year the children, as a result of their observation and work, should be able to represent to themselves the lines that the sun makes, as he moves across the sky in September, December, March, and June. This work would have been done with sufficient accuracy if the children knew as a result of their own observations, that at noon, the last of September, the sun is a little over half way up on the noon line, that is on a line extending from the zenith to the south point of the horizon; that the last of December it is only about a quarter of the way up; that the last of March it is just as it was in September; and that the last of June it is over three quarters of the way up, or pretty near to the zenith.

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[1] Copyright, 1887, by Larkin Dunton, and Miss L. T. Moses.

In regard to the sun's movement, they should know that in September and March it rises and sets in the east and west; that from September on to December it rises and sets farther and farther to the south of east and west, till it rises and sets a third of the way to the south; and that after Christmas it begins to come toward the east and west again in its rising and setting, till, in March, it is in the east and west as in September. From March to June the children watch the sunset only, and they now know that the sun, from March to June, went farther and farther north of west at his setting, till now the last of June he sets a third of the way from the west to the north, or just as far to the north as he went to the south in the winter. The children infer that the sun rises as far to the north of east as he sets to the north of west. Any children who have waked up at sunrise, have seen this to be true, as the teacher has many times; so the children know that their inference is correct.

The children have watched the way the line of the setting and rising sun meets the horizon at the different seasons of the year, and have represented, at these four periods, the equinoxes and solstices, the lines made by the sun from sunrise to sunset. So now at the end of the year, when asked to represent the lines that the sun made on the heavens in September, December, March, and June, they readily do it; and are quite ready to consider such relations of the sun to itself and to other things as are suitable to their development.

After the lines made by the sun at different seasons, have been represented by the pupils, the teacher says, "I wish you would look at those four circles together. Paint them in golden lines upon the blue sky. I want to know some things about them."

"Now you have them painted, how many lines have you? Lucy may tell."

"I only have three lines, for the September and March lines are in the same place, Miss Holt."

The children mostly agree with Lucy, and then they are asked what kind of lines these are that they have painted across the sky. Careless Charlotte says they are golden lines. All the children raise their hands, and Kate says, "Of course that cannot be what you mean, Miss Holt; for you told us to paint our lines in gold, because the sun is gold."

"Did I tell you all that, children?"

"No, but you told us to paint the lines in gold, and of course we know the reason, Miss Holt," said Max.

"Now, who can answer my question?"

" The lines are curved lines. If they were finished they would make circles, Miss Holt."

" Good, John. Now, children, all think, what relation the parts of circles have to each other.

" True, they are parallel. Now think of the circles which the moon makes, paint them in silver, and tell me about the sun's and moon's circles.

" Good, now think of the Great Bear's path and tell me about that, with the sun's and moon's circles. Mary tell."

" The Great Bear makes a whole circle, and the sun and moon make parts of circles, and the Great Bear's circle is parallel to the sun's and moon's circles. Miss Holt, I think all the circles in the whole heavens are parallel to each other."

" We are getting on; how many think Mary is right? I am as sure she is, as you are. Tell me some other stars that make circles parallel to the sun and moon's circle. Philip may answer."

" Orion makes a small part of a circle; Sirius makes a smaller part, the Pleiades make half a circle, and Regulus, in the Lion, makes more than half a one; I think Antares in the Scorpion is going to make a circle when we have seen him long enough."

" Will you all think whether any of these stars which Philip has mentioned make nearly the same circles as anything else we know, and tell me just which ones they are?

" That is true, the sun and moon are sometimes in the same circle as the Pleiades, the Lion, and the Scorpion; but I know one other constellation that we have watched that has the sun and moon in it sometimes. Strange that you have forgotten Castor and Pollux. Now will you think about the December circle and the June circle, and think of the days and nights last Christmas, and now in June? I am glad you are all anxious to tell. I want a thoughtful child to answer; yes, Frank."

" In December the sun made only a small part of a circle, so," said Frank, pointing out the sun's winter path; " and of course we had short days and long nights; for the sun had such a little way to travel. Now he has a long road, more, much more than half a circle, and of course it takes him more time ——"

" I think, Miss Holt, that we have short nights now; because more than half the circle is up."

" Very good, Jenny; but you should not interrupt Frank. It was his right to say that."

" I do n't think I was going to say quite that, Miss Holt; only that of course the days were long and the nights short. Jenny said it better."

"May I beg Frank's pardon, Miss Holt," said Jenny, looking ashamed.

"Certainly, Jenny." And Jenny did so, and the lesson proceeded by the teacher's asking the children to think of the sun's winter circle, then of his summer circle, and of the weather, and to tell if they saw any reason in the circle for the warmth of summer and the cold of winter.

Almost every hand came up, and George, who was called upon, said that as the summer circle was larger than the winter one, he felt sure that the longer sunshine would give warmer weather.

Still the hands kept up, and John said he thought George was right; but that the principal reason was because the summer circle went so high, and that the winter one was so low.

The children were all satisfied with this answer, and were now asked why they thought the height of the sun had anything to do with heat.

"Why," said Rachel, "we have noticed almost every day this year, that when the sun gets higher, as it does every day till noon, it grows warmer; and then in the afternoon, as the sun gets lower, it grows colder; and of course we had to notice that it grew colder all the months that the sun went lower, and then when it got higher, it began to grow warmer."

"Is everything Rachel says just exactly true, children?"

"Not exactly, Miss Holt; for the sun was higher right after the Christmas vacation, and it was not much warmer for a whole month. Still I think the sun's getting higher makes the weather warmer."

"So do I, Sarah. I am sure it is true, and when you are wiser you can know more about it."

The use of the sun, including its use to people, animals, and plants, and to the earth itself in taking away the snow, so that it can bring forth its fruits, is next studied. In all these studies of nature the use of beauty should be thought about. The sun's beauty, both directly at sunrise and sunset, and when it smiles over land and sea, and indirectly in its action upon vegetation should be remembered this year.

This thought of what the sun is to all things, both to the earth and to all living beings, may be carried on, till the children begin to feel that the sun is the bountiful giver of all good things to the earth, and so is in a sense the benefactor of the earth, as the Lord is the benefactor of all the people of the earth, giving us not only the sun itself and the earth, but minds to see His truth and love His goodness.

The work on the moon is to continue the observations of the previous years, and to follow in the advance the same lines of observation and thought as were followed this year with the sun; that is, to observe particularly the place of the rising, setting, and culmination of the moon at the different seasons, and to follow its course in its rising, setting, and culmination. This can be more easily done in the case of the moon, as it is perfectly safe for the eyes to watch its movement, while with the sun we must content ourselves with looking at the sunshine in a room, and the length of noon shadows. The representative work is picturing the lines made by the moon at different seasons.

The pupils are to see the relations of these lines to other lines, as in the case of the sun. If the opportunity serves, they are to see the relation of the moon to the tides this year. It will be well also to try to find what relation, if any, there is between the moon and the weather. In this way some common fallacies in this respect may be shown to be such. The moon should be compared to the sun in its uses, both practical and æsthetic, and shown to be less beneficial.

The lessons on the constellations should be conducted very much as those on the Great Bear and Orion were. The constellations to be found and studied this year are Taurus, finding the Pleiades and Hyades with Aldebaran; Gemini, knowing only Castor and Pollux; Leo, knowing Regulus and the sickle; and Scorpio with Antares for the zodiacal constellations. It would be well also to know Vega in Lyra, and perhaps Capella in Auriga.

The number of the constellations so far studied is insufficient for a classification this year; so that will be deferred to the grammar school couse, though the children will even this year speak of the constellations which make the same lines as the sun and moon, or the constellations in which the sun and moon are, and those in which they are not. The children will also speak of the northern and southern constellations.

The relations of the constellations to be known this year are mostly those of likeness and unlikeness, and may be known by a comparison of constellation with constellation, in respect to position, form, number of stars, number of first magnitude stars, beauty of the whole constellation and of individual stars, kinds of geometrical figures that can be made with stars in each constellation, and the different positions of the circles or parts of circles made by each.

In these lessons, as in all this year's work, selections of beauty from the poets should be committed to memory by the children, and they should know the name of the great poet who wrote the selection they know and love. The following would be suitable for this grade: "The Evening Star," Longfellow; and "On the Stars," Christina Rossetti; "Sunrise on the Hills," Longfellow; "Moonrise," Wm. B. O. Peabody; "The Moon," Christina Rossetti.

THE HISTORY OF OUR COUNTRY: HOW TO TEACH IT.[1]

BY WILLIAM A. MOWRY.

(*Second Series.*)

VI.

THE FEDERAL CONSTITUTION.

THIS country has had four different kinds of governments.

1. Prior to the revolution were the several colonial governments, differing from each other, some royal or provincial, some proprietary, some charter governments, but all subject to Great Britain.

2. The revolutionary government. Aiming at a redress of grievances, the several colonies appointed delegates to what was termed "the Continental Congress," which assembled in Philadelphia, May 10, 1775, and five days later appointed George Washington, Commander-in-Chief of the Colonial forces.

In July, 1776, the congress representing the various colonies issued the famous Declaration of Independence. On that day, July 4th, the colonies became states and through the congress, the nation began its separate existence, with only those powers which public opinion and common consent gave to this body. This form of government remained in force until the ratification of the articles of confederation, March 1, 1781.

3. The Confederate Government. The articles of confederation framed by the congress, were adopted by the delegates of the several states, in congress assembled, but were not submitted to the people of the states. They were very weak and unsatisfactory. It was soon found that a good government under those articles was impracticable. They gave to the congress no means of enforcing its laws upon the states, and the states disregarded the recommendations of congress with impunity. Distress and ruin would evidently soon overspread the country unless some more vigorous form of government was adopted.

4. The Constitutional Government. On the 14th of May, 1787, the Federal Convention assembled at the state house in Philadelphia to revise the Articles of Confederation. This convention was composed of a body of gentlemen who, for experience in governmental affairs, knowledge of the history of nations, practical statesmanship, and pure

[1] Copyright, 1888, by William A. Mowry.

patriotism, has seldom, if ever, been equalled in the world's history. George Washington was president of the convention, Benjamin Franklin was a member of it. Robert Morris and Gouvernor Morris, James Madison and John Blair, Charles Pinckney and William Blount, Jonathan Dayton and Alexander Hamilton, Roger Sherman and Rufus King, Edmund Randolph and Nathaniel Gorham, William Patterson and Elbridge Gerry, Oliver Ellsworth and Cotesworth Pinckney, and other distinguished men were members.

On the 17th of September following, the convention submitted to the congress a "Constitution for the United States of America." This Constitution was approved by the congress and transmitted to the states for adoption by the people. Conventions were held in the several states, and the new system was discussed with great ability and great zeal, amid many conflicting opinions. The opposition to it in several of the states was very vigorous and bitter. The discussions, especially in the conventions in Virginia and in Massachusetts, brought many strong men on both sides into the arena.

Patrick Henry opposed it with all his vehemence and oratory. Richard Henry Lee, Governor Harrison, and George Mason of Virginia; Samuel Thompson, Nason, Singletary, Thomas Lusk, and others fought it bitterly in the Massachusetts convention. It was, however, finally adopted by the people of the states, and George Washington, of whom Monroe wrote to Jefferson, "Be assured that Washington's influence carried this government," was unanimously elected President.

The new government was to be inaugurated on the fourth of March, 1789. For more than a century, therefore, our national affairs have been carried on under this constitution. It has been our "Charter of Rights," and "Our Palladium of Liberty." Of it Gladstone, the most illustrious statesman of today has said, "It is the greatest product of the human mind ever produced at a single stroke."

When it went into operation the upward course of the young republic began. Five millions of people, occupying eight hundred thousand square miles of territory, which extended from the Atlantic to the "Father of Waters," were now successfully carrying on self-government. The importance of this period and the great wisdom and practical patriotism of the framers of this constitution should be strongly impressed upon the minds of the pupils.

Books of reference: Bancroft's sixth volume. Eliot's Debates. Towle's Analysis. Von Holst. De Toqueville. Hildreth. British Annual Register, 1786–'9. Madison Papers. Spark's Washington. Life and Works of Franklin. Life of Patrick Henry, by Moses Coit Tyler.

PRACTICAL METHODS OF TEACHING SPELLING.[1]

(*Second Series.*)

IX.

BY ANNA B. BADLAM.

Principal of Lewiston Practice School.

Lesson 118. Board-work for the teacher.

MORAL LESSON.

"If Wisdom's ways you wisely seek,
Five things observe with care:
To whom you speak, of whom you speak,
And how, and when, and where."

GENERAL DIRECTIONS.

Question the children to discover how well they comprehend the meaning of the lines. Lead them to see that they may do wise or unwise things; may follow good or poor examples. Let them decide whether they will follow the guide Wisdom, or Folly.

If they seek to follow Wisdom, how many things must they observe or notice, or keep in mind?

What are these things to be kept in mind?

What little member must be guarded? Some one may remember to have heard, "The tongue is an unruly member," question the children to see if they can give instances when the tongue is unruly.

The expression "To whom you speak" is to be dwelt upon. The children volunteer to tell their reasons. Give little maxims for the children to repeat in concert.

"Keep good company."
"Choose your friends."
"Evil communications corrupt good manners."
"Shun evil companions."

Give them the little fable from the French: —

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[1] Copyright, 1888, by Anna B. Badlam.

"One day, a little buttercup found herself in the same vase with a pink. The next day she had the perfume of the pink."

Weave a little fable of the specked apple that was carelessly allowed to remain in the barrel of sound apples, and dwell upon the consequences.

Lead the children to consider the line, "Of whom you speak." Question them, that they may, from their own experience, decide that kind words are better than unkind ones.

Give them the expression, "Kind words can never die." Lead them to feel the unkindness of speaking ill of *any one*. Give them the expressions, —

1. "Do to others as you would have them do to you."
2. "Be to others kind and true,
   As you'd have others be to you."
3. "Do as you would be done by."
4. "He who steals my purse steals trash; but he who steals my good name, steals that which does not enrich him, but maketh me poor indeed."

Lead the children to feel the importance of "how, and when, and where" they speak.

Dwell upon little terms of courtesy and politeness. Picture different times and circumstances, that the children may decide upon the proper way to speak at different times, in different places.

Lead them to see the impoliteness of interrupting a person in conversation, either by addressing the person, or, by offering a remark when he is speaking.

Lead them to see the thoughtlessness and rudeness of interrupting a person, who is busy reading or writing.

Give a little lesson upon greeting people at home or in other places. Give a lesson upon addressing strangers, or upon asking a favor, or upon receiving one.

Give a lesson upon the proper way to give a message, or to do an errand. Give numerous instances, according to the needs of the class, and give the little motto, —

"Politeness is to do and say
The kindest thing in the kindest way."

Lesson 119. Stems to be built upon in oral sentences.

Board-work for the teacher.

Suffixes to be used.

1.

way	wise	seek	observe	care
+	+	+	+	+
s	r	s	s	s
	st	er	r	d
	ly	ers	rs	*ing
	*dom†	ing	d	ful
			*ing	less
			*vation	

*** Omission of silent *e* from the stem. †Change of pronunciation.**

2.

Suffixes to be used.

who	speak	thing	you
+	+	+	+
m	s	s	r
se	er		rs
	ers		
	ing		

The prefixes:

some + *thing*
any +
**no* +

*** Change in pronunciation. New division of syllables.**

The prefix *un*.

un wise
+
ly

N. B. Have the words used freely in oral sentences. Give elliptical sentences to suggest the proper word to be inserted.

Lesson 120.

Elliptical sentences to be filled in by the children. First, for oral work; second, for slate-work.

1.

The stem *way*.

Which is the better - - - to do this?

There are two good way - . One is as good as the other. I will show you both - - - - ; then you may do it the - - - you choose.

2.

The stem *wise.*

We will try to grow - - - - .

We will grow wis - - and - - - - - each day, if we learn a little each day.

Solomon was called the wis - - - man; we hear of the wisdom of Solomon.

We will try to gain wis - - - all our lives. Try to do no - - wise thing.

We will try to live wise - - , not unwise - - .

3.

The stem *seek.*

Let us play "Hide-and-S - - - ."

The lion seek - his prey.

That man is a gold-seek - - .

Let us be seek - - - after knowledge.

What shall we be seek - - - ? Shall it be Wisdom or Folly?

4.

The stem *observe.*

We must - - - - - - - others, if we would learn.

He, who observe - well, will be able to do well.

He is a close observ - - . Nothing escapes his notice.

Children are quick observ - - - . They ought to learn quickly.

We stood watching the ant-hill. Then we observe - that all the ants seemed to be busy.

What are the children doing? They are observ - - - the clouds today.

We have observation lessons at school. Observ - - - - - lessons teach us to - - - - - - - .

5.

The stem *care.*

Who takes - - - - of all His children?

God care - for all.

He has care - for us always.

He is car - - - for us through the busy day and in the quiet night.

We will be care - - - to obey our parents.

We will not be care - - - - and forget what they tell us.

6.

The stem *who.*

There is a pencil on the floor. Do you know - - - dropped it?

John, do you know who - - pencil it is? Does any one know to who - it belongs?

7.

The stem *speak.*

Let us - - - - - the truth.

He who speak - the truth, will be believed at all times.

That man is a good speak - - .

There were several good speak - - - present.

We were speak - - - about the lecture. The first speak - - was the one who made the best speech. *He* spoke *well.*

N. B. Irregular forms, *speech, spoke.*

8.

The stem *thing.*

Tell me one - - - - - about the ant.

I think there are two or three thing - you know about bees.

Tell me some - - - - - about a rabbit.

Can you tell me any - - - - - about a snail?

*Do you know *no - - - - - about the cat's claws?*

* Change of pronunciation. New division of syllables.

9.

The stem *you.*

Does this knife belong to - - - ?

Is it not you - knife?

Are you sure it is not you - - ?

Lesson 121.

OUTLINE FOR BUSY WORK.

1.

N. B. Place the outline upon the board, and have the children copy and fill in.

way	*wise*	*seek*	*observe*	*care*
+	+	+	+	+
s	*r*	*er*	*r*	*s*
	st	*ers*	*rs*	*d*
	ly	*ing*	*d*	**ing*
	**dom*†		**ing*	*ful*
			**vation*	*less*

* N. B. Omit silent *e* from the stem. † Change of pronunciation.

RESULT OF BUSY WORK.

way
ways

wise
wiser
wisest
wisely
wisdom

seek
seeks
seeker
seekers
seeking

observe
observes
observer
observed
observing
observation

care
cares
cared
caring
careful
careless

OUTLINE FOR BUSY WORK.

2.

who
+
m
se

speak
+
s
er
ers
ing

thing
+
s

you
+
r
rs

un
+
wise
wisely

1 some
2 any
3 no
+
thing

RESULT OF BUSY WORK.

who
whom
whose

speak
speaks
speaker
speakers
speaking

thing
things

you
your
yours

unwise
unwisely

something
anything
**nothing*

* Change of pronunciation. New division of syllables.

METHODS IN DRAWING.[1]

BY MRS. MARY DANA HICKS.

Director of Prang's Normal Drawing Classes by Correspondence.

VII.

IN the last article the subject of Construction, and the method of developing Constructive Drawing through Form Study from models and objects, was taken up and three simple exercises were given, showing the need of two views in presenting all the facts of form in an object. The subject will now be further continued by other exercises.

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[1] Copyright, 1889, by Mary Dana Hicks.

ALL VISIBLE EDGES MUST BE REPRESENTED.

Exercise 4. *Model required.* A solid Greek cross.

Here is a problem. The front view of a solid Greek cross is given, *a*, Fig. 10 — the thickness of the cross equals the length of one of its arms — required, the right side view.

The front view gives the two dimensions, height and width from left to right. The side view must of course be as high as the front view, and the width of the side view must be equal to the length of one of the arms. Draw, therefore, an oblong as high as the cross and as wide as one of the arms, obtaining the height by drawing indefinite horizontal lines either light or dotted from the top and bottom of the front view.

Look at the model; study the side view. Can any other edges except those of the outline be seen in the side view? Think them out and draw them, obtaining their proper height by drawing horizontals from the front view. See *b*, Fig. 10.

Exercise 5. *Model required.* Stick of timber halved for framing.

Study the different views, especially as to the number of visible edges. Draw the front, side, and top views. See Fig. 11.

Exercise 6. *Model required.* Tenon.

Draw the front and top views, also the side and top views. See Fig. 12.

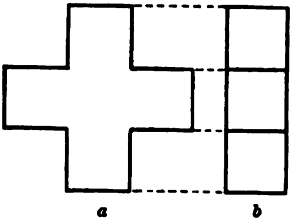

FIG. 10.

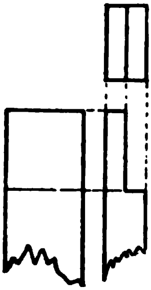

FIG. 11.

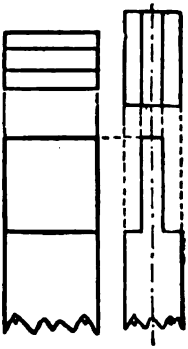

FIG. 12.

THREE VIEWS — DIMENSIONS.

Sometimes the front and bottom or top views of an object are not sufficient to represent its form completely as in a right-angled triangular prism having two square faces, Fig. 13. Its front and bottom views in one position are perfect squares, Fig. 14, and one might suppose it to be a cube, with top and bottom alike in shape. But when the side view is added, Fig. 15, the true form of the block is known. The three views in Fig. 15 show that the top of the block is only an edge, while the bottom is a square.

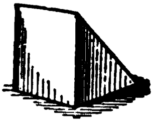

FIG. 13.

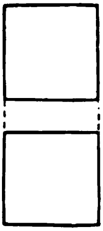

FIG. 14.

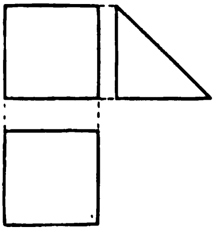

FIG. 15.

While three views as in Fig. 15 show the form of the block, they do not show the size.

The size of an object is indicated by dimension-lines. They are dotted lines, having the limits of dimension indicated by arrow-heads pointing outward. The lines are discontinued for a short distance at about the middle, in order to leave a blank space for the dimension figures. These figures are made a little below the level of the line; in other words, they are placed so that if the dimension-line were continuous it would pass through the middle of the figures. If the dimension-line is horizontal, the figures should be made as if on a horizontal line; e. g., 4'5''. If, however, the dimension-line is vertical, the figures should be made as if on a vertical line; e. g., 5'4''.

Dimension-lines are placed, when practicable, outside the drawing. The dimension-line is carried outside the drawing by dotted lines perpendicular to the line whose length is to be expressed. In general, the rule is to place the dimension-lines where they will be the most readily seen, and the least likely to confuse the drawing. If the two principal dimensions are the same, but one dimension-line is necessary; and this may be horizontal or vertical, the aim being to place it where it will interfere least with any other dimension-line. If a detail of the same view has its two dimensions equal, the principal dimension-line may be vertical, and the detail dimension horizontal, or *vice versa*. There are also other ways of placing detail dimension-lines.

Exercise 7. *Model required*. Oblong block.

Draw three views of an oblong block — left end view, front view, and bottom view — and add figured dimension-lines, giving the actual size of the block from which you are drawing. See Fig. 16.

This is now a working-drawing, as it gives both form and size.

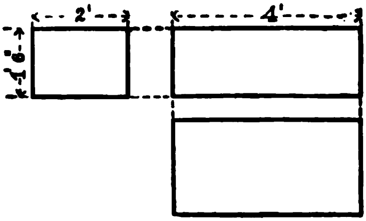

FIG. 16.

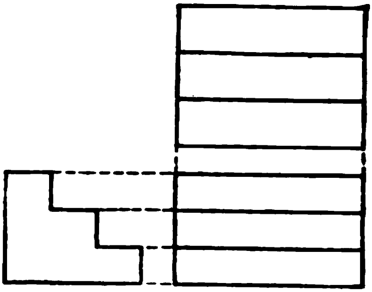

FIG. 17.

Exercise 8. *Model required.* Flight of steps — height, 2' 3", — width from left to right, 4', — width from front to back, 3', — treads, 1', — risers, 9."

Draw the left end, front and top views. Remember that all visible edges must be represented, and study carefully to find all the visible edges in the top and front views and their proper places in the drawing. See Fig. 17. Add figured dimension-lines.

READING AND LANGUAGE.[1]

BY EBEN H. DAVIS,

Superintendent of Schools, Chelsea, Mass.

I.

THESE two subjects are so intimately related that it would be difficult to teach one to the entire exclusion of the other. Both are especially the work of the primary school, and should claim by far the greater part of the school hours, for no very satisfactory results can be obtained in those branches which require individual study, until these are well advanced. Elementary science and art, taught objectively, need but little time, as compared with reading, and no effort should be spared in improving the latter and pushing it to the highest degree of excellence.

The prime object of learning to read is to enable one to understand the thoughts which are represented in script and printed language, *at sight;* the ability to give intelligent oral expression to these thoughts is secondary, although important. Various methods of teaching reading are practiced among teachers, and where they are specially interested in any one method, they are generally successful.

The question to be decided in determining which one is the best

[1] Copyright, 1889, by Eastern Educational Bureau.

is, what one will accomplish the most for the child in the shortest time. The courses of study are so crowded and the average school life so short, that any economy of time is desirable. The "Thought Method" is a quick process, certainly, and a very natural one. Its results are also immediate and lasting. It leads the child to express his first sentence, and each subsequent one, just as he talks, without hesitation. He begins with the whole and discovers its parts by natural perception, and thus avoids the tedious steps of the alphabet process. This is the natural way to teach little children in any subject, and appeals to their intelligence at every stage. It also enkindles enthusiasm and calls forth immediate response. Reading, as at present taught, occupies a special hour of every day for the first nine years of school, and with results not always the most encouraging. True, it is a period when all progress is necessarily slow, and when the amount of information that may be gained is comparatively small, for the reason that the child is merely learning how to use his faculties; but it should be, and is, possible for him to learn to read at sight, fluently and well, any ordinary juvenile classic. Our first aim in teaching the child to read should be to lead him to attend to the thought of what he is to read, rather than the utterance of the words in which it is clothed. This, as before stated, is secondary, and will usually take care of itself when the first point is gained.

He expresses his own thoughts, and with pleasing utterance, long before he goes to school, and before he knows how to read. He generally has an extensive vocabulary before his introduction to the printed page. In fact, the average child at five years of age knows how to use several hundred words, and understands their meaning as he hears others use them. It is the business of the teacher to lead him to recognize these words both in their script and print representations, with as little loss of time as possible.

The best process calls into special activity two faculties of the mind, — those of sight and memory. With this fact in view we shall naturally seek to make the conditions most favorable for the proper exercise of these two faculties. A special drill in phonics is foreign to this idea, and is wholly unnecessary, especially in the early stages of learning to read. It does not furnish the key to a proper utterance, as many have supposed, any more than it does to him who learns to talk correctly before entering the school. He must have some knowledge of sound, to be sure, else he could not talk, but he gets this from his own observation. It is so in reading, and by training the eye exclusively, he will learn to pronounce correctly far more words than he would where phonics is used.

After he has learned to read, a proper cultivation of the voice is good, and let there be as much of it as time will admit. But the natural expressions in childhood are often more eloquent than we may hear after a season of cultivation.

In every school there are likely to be one or more children with an impediment of speech; they may not know how to place the tongue so as to produce certain sounds, how to move the lower jaw, or how to articulate, so to speak, with clearness. These are exceptional cases and should be remedied by special individual attention, but never during a reading exercise. Rightly directed, the energy and enthusiasm which may be called forth in giving expression to a thought clearly lodged in the mind, may do more to improve articulation than special drill.

Always, whenever a pupil shows hesitation in his reading, we may be sure that he did not comprehend the thought before attempting to read. The best plan of instruction will render it impossible for him to undertake to read before he has the whole thought, as will be explained hereafter. Unless this habit is early established, it will take a long time to acquire such a fluency of reading as to enable the mind to grasp the sense in advance, so as to control utterance in sight reading.

It is important to know something about child-life, to have a natural love and sympathy for children, and some knowledge of the first principles of psychology. Children are active, and require an active mind fruitful in resources, to direct them. Whatever they do, should be done with energy. "*Do with all the might*" is a safe rule for them to follow, provided the tension is of short duration. There is no danger to health or nerves in this plan, if every exercise is followed by something restful. There is more danger from an opposite treatment, when the child is not aroused to the full extent of his powers.

A little observation shows that children at play and in conversation, are earnest, everything being real to them. Their expressions show this, possessing a naturalness that is refreshing, and quite different from their first attempts at reading, unless the process of their instruction has been as natural as themselves.

The Thought Method enables us to preserve and continue their natural expressions in all their efforts at reading, from the outset. The most pleasing voices may be used as guides for modulating the voices of a whole school. The skilled teacher will rarely read for her pupils to imitate, for this interferes with naturalness of expression, and is not a sound principle in teaching. It is better to do nothing for them which they may do themselves. Their powers in this direction, unaided save by judicious questioning, are greater than they receive credit for.

After much solicitation, I have consented to describe the process of teaching reading by the Thought Method, as practiced in the schools of Chelsea, giving somewhat in detail the various steps in the first, second, and third years of school.

LANGUAGE LESSONS AND EXERCISES.[1]

(*Second Series.*)

X.

BY L. W. RUSSELL, A. M.

USES OF THE APOSTROPHE (').

THE frequent occasions for the use of the apostrophe (') in common manuscript make it needful to give it attention in the branch of *lessons* and *exercises* now in progress. While some practical study of the mark may have been given in connection with textbook work on "case," and in the formation of certain "plurals," it will be none the less useful to collate and illustrate its uses as a special exercise. Pupils, generally, have little difficulty in understanding the uses of the apostrophe; but its omission where needed in their manuscripts, is a common thing.

An apostrophe should be used:—

1. To show the possessive case of nouns. Under this head come, (*a.*) *Actual possession of property*, whether it be much or little; as, Mr. *Vanderbilt's* Newport villa. The *fisherman's* cottage on the rocks. *Queen Victoria's* diamonds. *The Indian squaw's* beads.

(*b.*) *Indication of fitness or adaptation;* as, A *men's* furnishing store; i. e., a store having goods adapted for men. *Ladies'* dress-goods marked down. (Dress-goods adapted for ladies' use.) *Boys'* clothing sold, etc. (Not clothing owned by boys, but suited for boys.) *Horses'* collars fitted to order. (Collars fitted to horses.) A chest of *carpenter's* tools was stolen from the store. (Tools adapted to a carpenter's use.)

(*c.*) *Authorship;* as, *Gray's* Elegy was read. (The elegy of which Gray was the author.) *Longfellow's* "Tales of a Wayside Inn." *Patrick Henry's* War-speech was declaimed. *Robert Burns's* poems are mirrors of nature.

(*d.*) *Invention* or *origin;* as, *Eli Whitney's* cotton-ginn opened the way for cotton to be "King." (The cotton-ginn invented by Eli Whitney.) *Morse's* telegraph made neighbors of distant continents. The *sun's* rays give us light and heat. The *General's* commands were strictly obeyed.

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(*e.*) *Kindred* or other *relationship;* as, My *brother's* sons were there. Our *forefathers'* sabbath observances were rigid. The *society's* President was detained. " A *chieftain's* daughter seemed the maid."

(*f.*) *Time*, *weight*, and *measure;* as, The *Seven Years' War* left the country weak and impoverished. There was not a *pound's* weight of bread for the family. The cyclone swept a space of forty *yards'* breadth.

(*g.*) *Parts of a whole and attributes of objects;* as, The *tree's* leaves had fallen. The *dog's* ears were clipped. The *river's* mouth was deepened. The *flower's* roots are but underground stems. The *clock's* face showed an expression of dignity. " A *mother's* tenderness, and a *father's* care, are nature's gifts for man's advantage. The *boy's* honesty secured the position. The *servant's* untruthfulness caused her dismissal."

NOTE. — The full comprehension of the use of the "apostrophe," as the sign of the "possessive case," can be gained only by work upon a large number of varied examples.

2. *To show the elision of letters, syllables, and words.*

(*a.*) *Of letters:* —

"'T is he, 'T is he!
He comes once more!"
" I 'll never taste the accursed cup!"
You 'll never do that.
'T was not for this I came.
Don't go. I will have none of 't.
A book 's a book although there 's nothing in it.
" All 's Well that ends Well."
Yours of the 10th inst. is rec'd.

(*b.*) *Of syllables and words:* —

'Mid such a heavenly scene as this.

For 'twixt the hours of twelve and one —

" 'Faith (in faith) there have been many great men that have flattered the people who ne'er loved them."

It was twelve o'clock (of the clock).

We 'll take a 'bus (omnibus) for the ferry.

(*3.*) *To denote the plurals of letters, figures, and signs:* —

Care should be taken in crossing the t's and dotting the i's.

Carelessly made 7's and 9's are often mistaken for each other.

The mercury was for days among the 90's.

In working the problem, two ×'s appeared where there should have been +'s.

" Mind your p's and q's."

(*4.*) *In dates to denote the elision of the century:* —

They rallied with the spirit of '76.

The class of '91 will meet the '92's for a friendly contest at foot-ball.

“First of November, 'Fifty-five!”

EXERCISES.

From your reading-books select sentences in which the “apostrophe” is used, and give the reason for its use, thus: —

“*Is't* death to fall for *Freedom's* right?”

The apostrophe in “Is 't” is used to make one word of the two words *Is it.*

The apostrophe in “Freedom's” is used with the “s,” to denote that something belongs to *Freedom* (“right”).

In the following examples, and in others which may be selected, tell what words should be put together, or what ones may be properly abbreviated: —

“What is [what's] hallowed ground? It is what gives birth
To sacred thoughts in souls of worth.”

“Stand! the ground is ['s] your own, my braves.”

“You have ['ve] gathered to your place of prayer
With slow and measured tread.”

Dictate the following for pupils to write: —

“If I'd a throne, I'd freely share it with thee.”

“Where dwellest thou?”

“I' the city o' kites and crows.”

“A mingled air: 'twas sad by fits, by starts 'twas wild.”

“Go to, I'll no more of 't; it hath made me mad.”

“'T is finished. He's gone! He's got a knife! 'T is wonderful.

He uses too many I's, and me's, and my's.

The +'s and —'s were not on a line.

Abbreviate, by elision and use of the apostrophe, the following, and put into sentencess —

I am.
I have.
I will.
In the.
Do not.
Would not.
Could not.
Against.
Over.

He is.
They are.
Who would.
You would.
You will.
Thou art.
We will.
Amongst.
Never.

Thus: — “I am”; I'm going to try. Don't go! the current'll catch you!

Call attention to the fact, —

That the apostrophe, in abbreviating, is used chiefly in poetry and dialogue. This form of abbreviation is properly employed where intense feeling would compact the utterance; as in the dialogue between William Tell and the tyrant Gesler: —

Tell. — You 've picked the smallest one [apple].

Ges. — I know I have.

Tell. — O! do you? But you see the color on 't is dark. I 'd have it light to see it better.

* * * * * * * * *

Tell. — Why 't is better than the first, but not good enough for such an aim.

As I'm to take — 't is heavy in the shaft. I 'll not shoot with 't.

Rem. — Notice how the omission of a letter here and there, in the above, sharpens the intensity of Tell's expression.

In common conversation the elision of certain sounds and the union of words add much to the vividness and rapidity of speech; but there is danger of overdoing in this direction; and the careful teacher will caution against this fault.

Call the attention of the pupils to the fact, that, in most kinds of prose composition, not conversational, it is rarely in good taste to use the abbreviated forms shown by the apostrophe.

In the following example from Irving's "*Rip Van Winkle*," this form of expression is very effective: —

"In the midst of his bewilderment, the man in the cocked hat demanded, who he was, and what was his name?"

"God knows," exclaimed he, at his wit's end; "I'm not myself — I 'm somebody else — that's me yonder — no — that 's somebody else got into my shoes — I was myself last night, but I fell asleep in the mountain, and they 've changed my gun, and I 'm changed, and everything 's changed, and I can't tell what 's my name or who I am!"

Attempt to read the above by full words all through, and note the result.

COMPOSITION EXERCISE.

Write a dialogue between a country farmer boy and his city cousin, who has come for a visit, in his summer vacation. The city boy sees a great many curious things which he knows little about, and is full of questions. The country boy is delighted at his superior knowledge, and freely tells his city visitor about things.

They go out for a half day's excursion; bits of their conversation may be written out with connecting narrative between.

They drive the cows to pasture on the way. Things which excite the curiosity of "City" are like these: The bell on one of the cows

— how the cows bite the grass — what John is going to do with the oxen — why he does not drive them "tandem" — what that "triangle" thing with teeth is for? (a drag harrow.) The spring at the foot of the hill — where the water comes from — what makes it so cool and clear. Muskrats by the bridge — how to catch them — about their houses. The willows by the dam — making whistles. Over the walls — how men make them. Into the woods — Country boy shows how to tell different kinds of trees by their bark — by their leaves — Plan for chestnutting next autumn — squirrels' holes — Go to the box-traps for squirrels — caught a gray one. City boy frightened at the baying of some hounds. Come to some "partridge-fences" and "snares" — not allowed to catch partridges in summer — plan a new "fence" for next autumn. What makes the mosses and ferns grow on the rocks — all very beautiful — City boy wishes he lived in the country. Country boy would like to go to the city to "see the sights," but would want more "out-doors" to live in.

Home by the old saw-mill and the "Bears' Den." City boy hungry, thinks his Aunt Hannah's cooking is the best he ever tasted.

For girls the above should be varied to suit their tastes.

A return visit by the country cousins to the city will form excellent material for more work of the above kind.

Work up something with the pupils in which they naturally and properly take interest, and the matter of writing comes comparatively easy. Find something to commend in their work and criticise kindly.

THE STUDY OF SYNONYMS.

BY RUTH B. MOWRY.

SEVERAL questions and criticisms with regard to the synonyms having been received, it seems best to make some explanation as to the plan that has been adopted in giving these outlines. In order the better to do this, the following kind letter, recently received from one of the able sub-masters of the city of Boston, is given: —

DEAR DOCTOR MOWRY:

The "Synonyms" of COMMON SCHOOL EDUCATION are usually so felicitous, that any criticism seems ungenerous. Still, I would mildly suggest that the admirable editor has followed the example of the "good Homer." Her notes on "Sarcasm, Satire, and Lampoon" *nod* in the remark: "All three are derived from the Latin."

Sarcasm is from the Greek: *σάρξ, σαρκός*, flesh; *σαρκάζω*, to tear the flesh; *σι ρκαὀμός*, a biting of the lips, — scorn, sneer, etc. Trench says of it: "Sarcasm is properly such a lash inflicted by the scourge of the tongue as brings away the *flesh* after it."

Lampoon is derived by the lexicographers, Webster and Worcester, from Old French, lampon, a drinking song, which is allied to lamper, modern French. Lamper is defined by Littré,—"Boire a grandes gorgées", — *i. e.*, to gulp down. Lampon would seem to be in the humor of a very inebriate condition, —quite regardless of propriety or acceptability.

Satire is from the Latin, bearing the stamp of the post-classical period: satur (from satis), rich, well-filled; satura, a mixture, salmagundi; satira, post classical, poetry, dramatic, epi-grammatic, and cutting.

Excuse my comments, and accept compliments on the great success achieved in this department. The contrast between *Apt* and *Fit* is cleverly drawn. Very truly, ——— ———

Such letters need no apology, but are welcomed as fair and helpful criticisms. In the "Study of Synonyms" the object is the training of young minds to think for themselves, to teach the correct use of the English language, to stimulate a desire to know more of the language which is likely to become universal, etc. The advantage of having the pupils notice the derivation of the words under consideration, is particularly to distinguish between those which are derived from the "mother tongue," the Anglo-Saxon, and those which come from some other source, principally the Latin. The aim of this part of the exercise is to instil into the minds of the pupils a love for and appreciation of those words which come from our Anglo-Saxon ancestors. It may be necessary at first, to have the pupils notice exactly how the words are derived, until they begin to understand how our English language was formed, but too much stress should not be put on the various tongues through which some of the words have come down to us. This is particularly unnecessary for young pupils, for whom this exercise is especially intended. Make the distinction clear between Anglo-Saxon words and those coming from other sources, and then when the pupils are older they will enjoy delving into the etymology of the words, and tracing out their progress. It is unwise to attempt to interest children in subjects beyond their capacity. Take the simple studies first. For this reason it has been thought best, in this list of synonyms, to say but little about the intermediate steps between the older languages and our English, that is, if a word comes from the Latin through the French, say merely from the Latin, but if word comes directly from the French, having nothing to do with the Latin, that should be marked as from the French. Some words may have originally come from the Greek into the Latin, and from the Latin into the French, and then into the English, but our words oftener come directly from the Latin. It would seem as if this were the case in the word Sarcasm.

In teaching this subject, many teachers will ask the pupils to give two illustrations for each word, one which they shall find from some author, the other of their own composition. This method shows much more clearly than any other whether the distinction is really understood.

EDITORIAL.

A Merry Christmas to all our readers!

HAVE your teachers a magazine club?

A GOOD teacher is both born and made.

SOME schools suffer from the lack of sufficient sociability among the teachers.

Happy the teacher who can honestly say, "My pupils always come to me well prepared."

Two of the best first assistants in Boston room together, and together make plans for the next day's work. They work in different schools.

ARE all our primary teachers aware how important it is for them to teach so nothing will ever have to be *un*taught in the grammar or high school grade?

"THE good order of the school was evidently the result of eternal vigilance," was her report after a visit. Was that a compliment to the school visited?

BUSY-WORK is a grand thing, if it is made to serve a more valuable purpose than merely to amuse. "Silent-work" is a better name for what is meant by the first term.

PYTHAGORAS, born over five hundred years before Christ, became a noted teacher among the Greeks. He employed music as a prominent means of culture Each day began and ended with songs. Here is a suggestion for American teachers.

THE Supervisors of Boston say in a recent report on Supplementary Reading: — "Biographies, Books of Travel, and Histories are, indeed, interesting to many children, and instructive to all. But young people crave stories; and it is certainly true that a pure story, skilfully told, will, in a healthful way, stimulate the imagination to a much greater degree than books written merely for instruction."

THE evening school is flourishing across the water as well as here in Boston. Manchester, England, has just opened a Commercial Evening School in one of the best school premises in the city, where shorthand, commercial geography, history, and book-keeping are taught. This city has also sixty-four elementary evening schools. In these besides the usual studies, girls are taught cookery, laundry work, and "sick nursing."

IT is an excellent plan for teachers when giving instruction in subjects where the pupils are writing to move about the room, as the lesson proceeds, and examine the writing, praising and criticising as the individual case requires. The teacher will thus have a chance to observe also how fully the pupils understand the instruction given, and to correct certain mistakes made by many in the class. It is a common but great mistake for teachers at such times to sit behind their desks.

TEACHERS should always in their work make a sharp distinction between teaching, recitation, and examination. These three provinces of the teacher's profession naturally come in the order just given. Yet we have repeatedly known instructors to reverse the order and begin work with an examination. This is done quite often in dictation. Small children are requested to write from dictation some stanza of a poem they never saw. Of course they make many mistakes. Then the teacher gives the needed instruction orally, or writes the lines on the board in the correct form, and the children copy. This is what they should have done in the first place. Not only have ten minutes been lost, but worse than that, the children have been practising wrong forms because their teacher followed a wrong order of work.

IN the *Heidelberg Volkschule*, the German children begin geography in the lowest grade at the age of nine. They study the first year their own district, each child having a map of the country for a radius of fifteen miles. They also use a good sized model of the same country. This section of the world is well adapted to give correct ideas of the surface of the earth, as it contains mountains, the Neikor valley and river, and the great Rhine plain. The children of course are deeply interested. American teachers will do well to begin to teach the subject in the same way wherever nature has made localities containing similar illustrations. In Quincy geography is first taught from the home surroundings. We once stood in a school building in Connecticut, from the windows of which one could see mountains, hills, a river, a lake, and a valley. When these cannot be seen, let pictures representing these terms be used.

CHATS WITH TEACHERS.

CONDUCTED BY SEAVER CRAWFORD.

The object of this department is to help teachers in their daily work. It will be opened for the discussion and solution of difficulties frequently met in the different grades of the primary and grammar schools. Questions and suggestions should be sent to SEAVER CRAWFORD, care EASTERN EDUCATIONAL BUREAU.

HELPS IN GEOGRAPHY.

We are trying in our school to make Geography more interesting. Are there any helpful books? L. P. N.

Yes; there are plenty of them. Those most read just now are the following: Crocker's Methods of Teaching Geography. Carver's How to Teach Geography. Frye's Geography with Sand Modeling. Geikie's Teaching of Geography. Parker's How to Study Geography. King's Methods and Aids in Geography.

LOSING INTEREST.

My class seem to be losing their interest and becoming quite uneasy. What can I do to restore them to their former happy condition? SECOND CLASS.

Their present condition is perfectly natural if you, their teacher, have been going on from day to day in about the same way, hearing recitations, finding fault with little things and feeling very much disgusted with yourself, and especially so with your class, because they have not in two months reached perfection. The next day you appear before the class, have as much *new* matter to present to them as you possibly can. Have a new chart, map, picture, or specimen; a new book from which to read, or something of the kind, and notice the increased interest. Perhaps a ride or walk after school is what is needed. Praise every good deed and every recitation that is worthy. Children like variety. The teacher must keep up her interest.

TOO MANY CLASSES.

I have an ungraded country school of about thirty pupils. I am trying to hear all the sixteen classes recite each day. The time for each recitation is very short; is there any way to remedy it? WATERTOWN.

The writer taught just such a school when younger, and knows your difficulties. You can remedy the condition of the classification in this way: Instead of having several classes in geography, reading, and spelling, unite some of these small classes into larger ones, and teach topically as far as possible. In other cases assign certain days in which to hear the more advanced classes in arithmetic, history, or reading, penmanship or drawing, instead of trying to hear them every day. Be sure that your arrangement requires each pupil to recite once or twice every day.

EXTRA READING.

There is a great deal in the teachers' magazines about "supplementary reading," but how can a teacher have this extra reading, if the school authorities are not willing to purchase the needed books? SIXTH CLASS.

We judge you are teaching in a town where the school committee need to be educated in the new and progressive ideas of the day. You have a good opportunity to do some first-class missionary work. We suggest the following experiments: Carry to school next week a bright interesting story, such as you are sure to find in *Wide Awake*, *St. Nicholas*, or some new reader, and read half of it to the children during the last hour of school; finish it the following day, and then ask your pupils how many would like to hear more such stories. Tell them you will be happy to gratify their wishes, if they will only supply the stories. Ask them to bring in such stories as they would enjoy hearing you read. Select one of these stories for the second reading. Then ask how many would like to have such stories from which to read each day in place of the regular reader. Now request the pupils to supply you with short stories such as are always found in *Youth's Companion*, the Saturday dailies and all weeklies. Choose the best which are brought in, and cut them into two inch paragraphs and paste on cards, numbering the cards in the order of the paragraphs. Give these cards to the children and let them read for the class. The interest will be astonishing. We have seen it tried.

GYMNASTICS.

What is the best system of gymnastics for school use? A. S. P.

That is a somewhat difficult question to answer in a few words. Dio Lewis advocated years ago a system which has been largely used in many schools. Miss Allen, a former Grammar school teacher in Boston, has a large gymnasium at the Back Bay, where hundreds of pupils daily practise the Sargent system. Doctor Posse, through the generosity of Mrs. Hemenway, is instructing several hundred teachers in the Ling system, so extensively used in Sweden and on the Continent of Europe. In this system, apparatus is not employed as much as in the Sargent system. We saw a first class in a grammar school recently go through many of these exercises in a very creditable manner, and in a way to convince any unprejudiced person how well they were adapted to school use. The newest and most remarkable of the systems we have lately seen is the one originated by Doctor Emerson and practised in his College of Oratory. In this system a few simple gentle movements produce the most astonishing results, after a few months' practice. There are parts in all of these systems which can be profitably used in any schoolroom. Dr. Mara L. Pratt's *New Calisthenics* will help "A. S. P." and other teachers to give instruction in physical exercises. This book shows what is best in the different systems.

HAPPY HOURS.

RECITATION.

FOR FIVE GIRLS.

1st Girl:—

What does the new year bring?
  Fair-faced spring, with her sunny smile,
  Summer birds for a little while:
Then with the autumn breeze,
  Giant trees with their branches bare;
  Winter cold with his hoary hair.
But it bringeth more than these.

2d Girl:—

What does the springtide bring?
  Velvet robes for the barren hills,
  Golden lights on the rippling rills;
While soft on the branching trees
  Tender, feathery leaves unfold,
  Snowdrops spring in the garden mould.
But it bringeth more than these.

3d Girl:—

What does the summer bring?
  Happy fields with their waving corn,
  Poppies red, in the sunlight born;
Wooed by the buzzing bees,
  Brilliant flowers of myriad hues
  Kissed by the sun, and fed on dews.
But it bringeth more than these.

4th Girl:—

What does the autumn bring?
  Yellow heads of the ripened grain,
  Wailing winds with a sad refrain
Sweeping the lonesome leas;
  Down in the stubble the rabbits stir,
  The partridge rises with sudden whir.
But it bringeth more than these.

5th Girl:—

What does the winter bring?
  Berries red on the holly spray,
  Gems of ice in the clear, cold day,
That gleam on the tall fir-trees;
  Over the world, with its leaden skies
  Dainty snow like a blessing lies.
But it bringeth more than these.

1st Girl:— And this is what they bring!
Time to sow in the fair spring hours,
To work and watch 'mid summer showers,
'Mid autumn winds and sun;
Time to gather the harvest in,
Ere ever the cold, dark days begin
When the long, long year is done.
Time for the busy hands to rest,
For cosey seats in the dear home-nest
With blazing logs piled high;
Happy hearts for the Christmas cheer,
And no regret for the parting year
As you bid its hours good-bye.

—*Selected.*

THE SUM OF IT ALL.

The boy that by *addition* grows,
And suffers no *subtraction*,
Who *multiplies* the thing he knows,
And carries every *fraction*,
Who well *divides* his precious time,
The due *proportion* giving, —
To sure success aloft will climb,
Interest compound receiving.

— *Dr. Ray Palmer.*

MORNING RECITATION—FOR PRIMARY CLASS.

BY LAURA F. ARMITAGE.

I WILL be careful all the day
About the words these *lips* shall say.

These *ears* must never fail to hear
What 's told me by my teacher dear.

These *eyes* upon my work must stay,
And 'round the room they must not stray.

These *feet* must softly walk; and they
Beneath my desk must quiet stay.

These *hands* must busy be, today,
But with their work, and not with play.

And here, in school, the whole day through,
I 'll do the best that I can do.

REPRODUCTION STORIES.

OLD ACQUAINTANCES.

LET me tell you a pretty story. Among the visitors to New York, during the centennial celebration, from the South was a gentleman on the staff of the Governor of Virginia. He had written to a friend to engage a horse for him to ride during his stay in New York. A handsome white horse was selected, and on the morning appointed was led, in company with a coal-black steed, to the spot where the Virginia gentleman and a friend were ready to mount, when, lo! the black horse pawed the ground, shook his head, showed great uneasiness, and altogether behaved so remarkably that he attracted great attention.

"As sure as I live," said the rider of the white steed to his companion, "you are mounted on Black Diamond, my own old horse!"

"Nonsense!" said the other; "you would n't know Black Diamond now, and he would n't know you."

By this time a little throng of spectators had gathered, interested in the scene. Black Diamond's saddle was taken off, and under it were discovered an old scar and a little tuft of white hair, which proved his identity beyond a doubt. When his old master mounted him, the horse fairly quivered with delight, and gave a cry of gladness. All through the centennial week there were two happy beings together, a man and a horse; and a horse sometimes shows intelligence so nearly human that one cannot but be glad when a great pleasure falls into the life of this faithful friend of man. — *The Presbyterian.*

HOW THIMBLES ARE MADE.

THE way thimbles are made in England and in this country is simple enough. Dies of the different sizes are used, into which the metal, whether gold, silver, or steel, is pressed. The hole-punching, finishing, polishing, and tempering are done afterward. Celluloid and rubber are molded. The best thimbles are made in France, where the process is more thorough. The first step in the making of a Paris gold thimble is the cutting into a disk of the desired size a thin piece of sheet-iron. This is brought to a red heat, placed over a graduated hole in form of the thimble in an iron bench, and hammered down into it with a punch. The iron takes its shape and is removed from the hole. The little indentations to keep the needle from slipping are made in it, and all the other finishing strokes of a perfect thimble put on it. The iron is then made into steel by a process peculiar to the French thimble-maker, and is tempered, polished and brought to a deep blue color. A thin sheet of gold is then pressed into the interior of the thimble and fastened there by a mandril. Gold-leaf is attached to the outside by great pressure, the edges of the leaf being fitted in and held by small grooves at the base of the thimble. The article is then ready for use. The gold will last for years. The steel never wears out, and the gold can readily be replaced at any time. Nowhere else in the world are gold thimbles made in that way. — *Selected.*

EXAMINATION QUESTIONS.

Given in the West School, Malden.

HISTORY. — CLASS II.

1. How did the New World come to be called America? What should it have been called? Why?

2. Tell the story of Ponce de Leon.

3. Where and by whom was the first settlement made in the United States? (Permanent settlement.) Who introduced the potato and tobacco into England? Where did the Pilgrims intend to make a settlement?

4. Give an account of the introduction of slavery into the United States.

5. Write an account of the Puritans, — their history before coming to this country, — their voyage, — their landing, — their sufferings, — their manner of life, etc.

6. What offence did Roger Williams commit against the colonists, and how was he punished? What resulted from this punishment?

7. What was the cause and what was the result of King Philip's war?

8. Write an account of the Salem Witchcraft, what it was, — the character of the victims, — how the people punished them, — and give your opinion of the course of the colonists in the matter.

9. Tell the story of Bacon's Rebellion.

10. Governor Berkeley, of Virginia, thanked God "that there were no free schools nor printing presses in that colony, and hoped that there would not be any these hundred years." Compare this with the spirit manifested in the Massachusetts colony.

LANGUAGE. — CLASS II.

1. Write the following words, making (*a*) statement, (*b*) question, (*c*) command, (*d*) exclamation. *Hear*, *sleigh*, *bells.*

2. Use correctly *sit*, *set*, *lie*, *lay*, *rise*, or *raise*, wherever there is a dash in the following: —

(*a*.) ——— the mat on the grass, and ——— in the sunshine.
(*b*.) ——— here and ——— your head on the cushion.
(*c*.) The hens ——— on the eggs.

3. Correct, if wrong, the following: —

(*a*.) She and you are sisters.
(*b*.) It is me.
(*c*.) Was that your dog who was killed?

4. Express the meaning of the following in as few sentences as possible: —

(*a*.) My dog is old. He is very cross. His teeth are gone.

(*b*.) We turned 'round a corner. We came suddenly upon a woodman. The woodman was felling a tree. The dry chips flew around him. He dealt his lusty strokes with his axe.

5. Indicate the distinct thoughts in the following: —

> "*Out* of the clover and *blue-eyed* grass,
> He turned *them* into the river lane;
> One after *another* he *let* them *pass*,
> Then fastened the meadow bars *again*."

What is the subject and predicate in each sentence?

6. Name the parts of speech which are underlined.

7. Write a letter to Knight, Adams & Co., 14 Milk Street, Boston, asking them to send you 5 doz. Walter Smith's Drawing Books.

ARITHMETIC. — CLASS II.

1. Make out a bill of sale for three barrels of sugar, weighing respectively 235 pounds, 241 pounds, and 254 pounds, at 11¾c. a pound.

2. My neighbor's garden is 2 rods square, and mine contains 2 square rods; what is their difference in size?

3. How many yards of carpeting ¾ yd. wide, must be bought to cover a floor 13 ft. square, no allowance being made for matching, and no breadth to be divided?

4. After the wages of a workman were reduced 7½ %, he received $3.70 a day. What were his wages before they were reduced?

5. A drover bought cows at $25 a head, and paid $7 each to get them to market. If he sold them at $40 a head, what per cent. did he gain?

6. At what rate % will $100 gain $33⅓, in 12 yrs., 6 mos.?

7. I gave my note to a person Jan. 1, 1877, for $387.20, with interest at 7 % from date. What should I pay to discharge this note, October 20, 1877?

8. What principal on interest at 6 % will amount to $870 in 7 years, 6 months?

9. An auctioneer sells on a commission of 8 %, 14 chairs at $1.25, 1 table for $10, and a miscellaneous lot for $53.79; what sum will be due the person for whom he makes the sale?

10. A merchant bought carpetings at 85c., and $1.20, and $1.50 a yard. At what price must he sell them to make 20 % profit?

GEOGRAPHY. — CLASS II.

1. How is the surface of North America naturally divided?
2. Bound the Plateau Belt.
3. Why should the eastern half of the United States be so fertile?
4. Name four noted manufacturing cities in Massachusetts.
5. Name the chief productions of the Central Plain.
6. Describe the vegetation of California, and give the cause.
7. What rivers drain the Western Highland?
8. In what does the chief wealth of the Western Highland consist?
9. How does the climate of the eastern part of the United States compare with the western part?
10. What cause the frequent rains in the eastern part of the United States?
11. Where is the peach region?
12. How many states? Territories?
13. What state has the longest lake coast?
14. Where is manufacturing principally carried on?
15. What supplies most of the raw materials?
16. What are our principal exports?
17. With what countries is our foreign commerce principally carried on?
18. Name four capes on the coast of New England.
19. For what is Connecticut noted?
20. Describe Philadelphia.

A BASKET OF CHIPS.

The subject of history is again under discussion in the Boston School Board.

Quintilian is supposed to have been the first, among the Ancients, who condemned whipping in school.

The latest educational venture is the "Teachers' Profession," devoted to *examination questions.* Has it come to this, that the teachers' profession and examination questions are synonymous? We trow not.

The persimmon tree grows from thirty to sixty feet in height. It is a native of the southern states of North America. One tree sometimes produces several bushels of fruit. The fruit has a sweet and astringent taste. Attempts have recently been made to introduce the fruit into the northern market.

Judge Fallon, member of the Boston School Board, introduced the following order at a recent meeting: —

Resolved, That the secretary of the board, shall, at the first meeting of the board in each month, furnish a tabulated record of the punishments inflicted during the previous month, and that corporal punishment shall not be inflicted on any girl in any school or on any boy in the high schools. It was referred to the Committee on Rules and Regulations.

The Chicago Principals meet their Superintendent every month for a free and lively discussion on educational matters. At their last meeting they had a field day on grammar. Superintendent Howland thought the old-time parsing was an utter waste of time. Assistant Superintendent Doctor Burroughs said that he had found by computation, the city of Chicago pays thousands of dollars yearly to have senseless forms in parsing drilled into the heads of its children. A few of the principals defended parsing, but most of them seemed to be with the superintendents in condemning too much grammar in the grammar grade.

The Boston Board of Health has recently made a lengthy report of the sanitary condition of the schoolhouses. The Board examined one hundred sixty-three schoolhouses with the following results: Defective drainage was found in 35, want of traps in 7, offensive privy vaults in 51, offensive urinals in 49, offensive and defective cesspools in 15, offensive water closets in 6, defective rain conductors in 4. Fifty-seven of the cellars were dark, musty, or damp. The amount of air space in many of the schools was not sufficient.

In eleven of the schoolhouses the extraction of foul air has been more or less promoted by the aid of heat applied to the outlet shafts to increase the current of air, and in six others the same object has been sought and more or less effected by the use of exhaust fans in the tops of the buildings.

As far as our knowledge goes, Boston has the best schoolhouses of any city in the country. One building cost nearly a million dollars. Most of the grammar buildings have each cost nearly one hundred thousand dollars. If properly ventilated, most of these buildings would provide ample and healthy accommodations for our children.

BOOK NOTICES.

LIFE, LETTERS AND JOURNALS OF LOUISA M. ALCOTT. Edited by Ednah D. Cheney. Boston: Roberts Bros. Cloth. Pp. 404. Price, $1.50.

Hundreds and thousands of us who have read with such genuine pleasure the stories which have made the name of Louisa M. Alcott a familiar one where the English tongue is used, will be much indebted to Miss Cheney for this chance to get a glimpse into the home-life and character of the author of "Little Men and Little Women."

Hellen Hunt Jackson has said, "Miss Alcott is really a benefactor of households," and true it is that there are more than one who can trace the formation of a purpose in life to the influence of Aunt Jo. Those who read this book will see that Miss Alcott had her "Moods," and that she grew in spite of them to a true, lofty womanhood. The book will help any girl who may read it, and will be of great interest to all literary people in opening to their full view the inner life and unfolding to plain sight the rich, rounded moral character of one of the world's most famous authors.

THE WORLD AND ITS PEOPLE. Books I. and II. Vols. 5 and 6 of the Young Folks' Library. Edited by Larkin Dunton, LL. D. Boston, New York, and Chicago: Silver, Burdett & Co. Half cloth. Pp. 160 and 159. Price, 36 cents each.

We are glad to see these two volumes, and pleased to commend them to the teachers as admirable in the place which they so well fill. This entire library is intended for supplementary readers, and these two are excellently adapted to this purpose by furnishing not only interesting matter, but instruction in geography as well.

Book I., First Lessons, is graded for those just about to begin the study of geography, and will be found to be of great service in making the subject interesting. Book II., Glimpses of the World, leads on from where Book I. left the pupil, and as a reading book does what the textbook cannot always do, namely, gives the child a knowledge of geography without the drudgery of the geography lesson. Among all supplementary readers for the lower grades these have the rarest qualities of excellence to commend them to all. They are original, philosophical and practical.

TEACHER'S MANUAL OF GEOGRAPHY. Hints to Teachers, Modern Facts, and Ancient Fancies. By Jacques W. Redway. Boston: D. C. Heath & Co. Cloth. Pp. 174. Price, 55 cents.

This is a book of Methods, which the teacher of geography of any grade will find of value. The chapters are, I., Preliminary Oral Work; II., Outdoor Lessons for Primary Classes; III., Place of Pictures and Models; IV., the Recitation in Intermediate and Advanced Work; V., Map Drawing; VI., Hints on Teaching Mathematical Geography.

TOPICS IN GEOGRAPHY. By W. F. Nichols, A. M., Principal Hamilton School, Holyoke, Mass. Boston: D. C. Heath & Co. Cloth. Pp. 174. Price, 55 cents.

These topics were prepared originally for use in his own classes, and are well worthy of use in other schools. They are very carefully prepared, and are so planned that much time and labor may be saved by following the outline laid down in them.

HANDBOOK OF COMMERCIAL GEOGRAPHY. By Geo. G. Chisholm, M. A., B. Sc., Fellow of the Royal Geographical and Statistical Societies. London and New York: Longmans, Green & Co. Cloth. Pp. 515. Price, $5.00.

This large volume is one of much value to the teacher of geography in making the subject of more interest as well as of real business value to the student in later years. Among the chapter headings in the first part are "General facts relating to Production, Distribution and Exchange of Commodities; Commodities dependent on Climate; Products of Fisheries; Mineral Products. These in Part Two give a careful discussion of the condition, population, manufactures and other products of the different countries of the globe. The Appendix of itself is of much value as a book of reference. There are thirty maps showing the Population, Railways, River Navigation, Products, Chief Coaling Stations, and Telegraph lines.

The book seems to have treated the topics discussed very exhaustively.

LITTLE WRITER'S OUTFIT. No. 2. By E. S. Sargent. Portland, Me.: Mitchell & Bickford.

This little box of stationery is especially prepared for the use of children as a guide and help in letter-writing. The contents include twenty-four envelopes, twenty-four sheets of paper, each having a cut in the upper left hand corner and across the top. These sheets are ruled with four lines, as in many elementary writing books. A card has each of the letters in script, both small letters and capitals, the ten figures, and the seven days of the week written out fully. This also has a cut which will interest the children. Then comes a set of lines for directing the envelopes, and a blotting paper also having a cut, completes the contents of the box.

Any child will be very proud of such a box of stationery, and will be immensely helped thereby. It will make a very good prize, remembrance, or Christmas present.

THE NEW CALISTHENICS. By Mara L. Pratt, M. D. Boston: Educational Publishing Co. Half Cloth. Pp. 110. Price, $1.25.

In this "Manual of Health and Beauty," we have a book which the public will most certainly appreciate. We have heard many calls for a systematic course of instruction in this subject; but we have not heretofore known where to find just such a book as this which Dr. Mara L. Pratt has prepared for use in the schoolroom.

The book is an illustrated course of lessons, beginning with the elementary steps in gymnastic drill and marching, and finished with the attitudes of elegant gesture. The system of exercises developed here is admirably adapted for use in the primary, grammar, and high schools of the country.

It is evident that much care has been taken by the author and the publishers to make this book not only the best of its kind in all respects, but to make the illustrations so full and explicit that all the movements described may be understood at once and with accuracy.

We congratulate Doctor Pratt and her publishers upon the beauty and value of her book, and predict an extensive sale.

ST. NICHOLAS. Bound volume in two parts. New York Century Co.: Price, $2.00 per part.

This beautiful and useful book again presents itself for the approval of the young, and offers them more attractions than ever. Its Special Papers are particularly instructive and entertaining, and worthy thoughtful consideration by old and young alike. Its Serials, Tales of Adventure and Short Stories, are of the best. and while interesting, always edify and educate. Indeed the whole collection of material, its thousand artistically executed pictures, and its beautiful binding makes a useful, cheap, but particularly valuable addition to the Young Folks' literature. St. Nicholas has never been better, and it is hard to understand how it can be very greatly improved.

LESSONS IN HYGIENE; or, The Human Body, and How to Take Care of It. The elements of Anatomy, Physiology, and Hygiene for Intermediate and Grammar Grades. By James Johonnot and Eugene Bouton, Ph. D. New York: D. Appleton & Co. Cloth. Pp. 213.

This is number two of the "Authorized Physiology Series," of which Mrs. Mary H. Hunt says: "In this series good judgment has been shown in the selection of facts that should be taught each grade, and in representing these facts in language which the pupils of the grades for which the books are designed can comprehend."

The book is endorsed by Mrs. Hunt and the Advisory Board for the United States, including Rev. Joseph Cook, Rev. Daniel Dorchester, D. D., and Dr. A. H. Plumb.

THE READING CIRCLE LIBRARY, NO. 10. EAR AND VOICE TRAINING BY MEANS OF ELEMENTARY SOUNDS OF LANGUAGE. By N. A. Calkins. New York and Chicago: E. L. Kellogg & Co. Price, 50 cents.

This book will be to the young, inquiring teachers a blessing, because it tells them what to do in order to train children to hear and speak well. It is so simple that the youngest teacher can at once apply every sentence.

STEPPING-STONES TO READING. A Primer, by Anna B. Badlam, Rice Training School, Boston. Boards. Pp. 113. Boston: D. C. Heath & Co.

The readers of COMMON SCHOOL EDUCATION do not need to be told that this author is good in her work for young children. All who have used her "Suggestive Lessons" will be glad to learn of the completion of this book which is intended to be supplementary to that. We commend it to the attention of every teacher in a primary school.

NOTES OF LESSONS FOR YOUNG TEACHERS. With Models from Actual Examination Papers. By John Taylor. Boston: Boston School Supply Co. Cloth. Pp. 101. Price, 50 cents.

The author has served many of the best years of his life as principal of a large school, and the methods he tested and found most valuable have been embodied in this little manual.

He explains the Essential Features of a Lesson, sketches the Plan of a Lesson, discusses the Subject-Matter of a Lesson, gives valuable hints on the Manner of a Teacher, with a short chapter on Tact, and shows how to Prepare and Give a Lesson.

Advice and information and hints on Matter and Method are presented to the young teacher as freely and candidly as a master would teach his pupil. If these hints are accepted and adopted, they cannot fail to produce beneficial results.

COMMON SCHOOL MUSIC READER. A Music Reader for Schools of Mixed Grades. First Lessons in Singing and Reading Music, with Exercises and Songs in one, two and three parts, and Directions to Teachers. By W. S. Tilden, Teacher of Music in the State Normal School, Framingham, Mass. Boston: Ginn & Co. Half cloth. Pp. 176. Price, 45 cents.

Many towns which are using the National Music System have found the need of a book particularly arranged for schools of mixed grade.

In this Music Reader is found one not designed to take the place of any of the regular series, but to adapt the principles of the "National System" to the requirements of mixed or ungraded schools. This will enable every town to use the same system in all the schools, whether graded or not.

COMMON SENSE ARITHMETIC FOR COMMON SCHOOLS. Parts I. and II. New York: A. Lovell & Co. Part I. Boards. Pp. 120. Price, 30 cents. Part II. Boards. Pp. 140. Price, 40 cents.

These two little books are certainly simply written, and the smallest child who begins the study of numbers with the use of Part I. will have no difficulty in understanding the principles which are the foundation of all uses of numbers.

Part I. is confined to the study of numbers from one to ten; Part II. being graded for grammar school work. The word *rule* is unknown in either book, and definitions are not used more than necessity compels. The examples for practice are very numerous.

ELEMENTS OF ENGLISH; An Elementary Grammar for Common Schools. By George Hodgdon Ricker, A. M. Boston and Chicago: Interstate Publishing Co. Cloth. Pp. 135. Price, 36 cents; by mail, 40 cents.

Many teachers and others have been much troubled about the study of English Grammar in the common schools. If there is a need of less of the technique of grammar, this book, which has been called a "Grammar without Tears," will be one to consider before any decision is made. The author is a well-known teacher of large and successful experience, and he has given us a book at once clear and concise, bringing the elements of the language within the comprehension of the pupil in a simple and attractive form.

LITERARY LANDMARKS. A guide to good Reading for Young People, and Teacher's Assistant. By Mary E. Burt, Teacher of Literature, Cook County Normal School. Boston and New York: Houghton, Mifflin & Co. Cloth. Pp. 152. Price, 75 cents.

Miss Burt has here embodied the results of twenty years' study of literature, and a knowledge of young people, with rare good sense, and has given us a book which every teacher from lowest grammar to senior high school grade will find very useful in guiding the reading of her pupils. We doubt if there is a more potent factor in the formation of character in a youth than the reading which he does. Any guiding into the best paths of literature will affect the whole future of the one guided.

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